

US EPA RECORDS CENTER REGION 5



1008982

RCRA PART B APPLICATION

HAZARDOUS WASTE MANAGEMENT

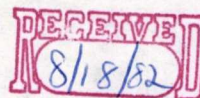
STORAGE FACILITY

EPA. ID NO. OHD005041843

RECEIVED

AUG 18 1982

WASTE MANAGEMENT BRANCH
EPA, REGION V



E. I. du Pont de Nemours and Company
Finishes & Fabricated Products Department
1930 Tremainsville Road
Toledo, Ohio 43613

August 16, 1982

COPY 2

CONTINUE ON REVERSE

III. PROCESSES (continued)

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

N/A

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE CODE
POUNDS P
TONS T

METRIC UNIT OF MEASURE CODE
KILOGRAMS K
METRIC TONS M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES**1. PROCESS CODES:**

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.

For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO. X-1 X-2 X-3 X-4	A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
				1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

EPA I.D. NUMBER (enter from page 1)													FOR OFFICIAL USE ONLY													
S W O H D 0 0 5 0 4 1 8 4 3 T/A C 1													S W DUP T/A C 2 DUP													
1 2 13 14 15													1 2 13 14 15 23 26													
IV. DESCRIPTION OF HAZARDOUS WASTES (continued)																										
A. EPA HAZARD. WASTE NO. (enter code)		B. ESTIMATED ANNUAL QUANTITY OF WASTE		C. UNIT OF MEASURE (enter code)		D. PROCESSES																				
						1. PROCESS CODES (enter)																				
						2. PROCESS DESCRIPTION (if a code is not entered in D(1))																				
1	F 0 0 3	4,300,000	P	S 0 1	S 0 2																					
2	F 0 0 5																									Included with the above
3	U 1 2 2	20,000	P	S 0 1																						
4	D 0 0 1	2,475,000	P	S 0 1																						
5	D 0 0 7																									Included with the above
6	D 0 0 8																									Included with the above
7	D 0 0 2	1,000	P	S 0 1																						
8	D 0 0 3	60,000	P	S 0 1																						
9																										
10																										
11																										
12																										
13																										
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21																										
22																										
23																										
24																										
25																										
26																										

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

N/A

EPA I.D. NO. (enter from page 1)

5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0	T/A	C
F	O	H	D	0	0	5	0	4	8	1	4	3					6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

4	1	4	1	0	4	1
65	66	67	68	69	70	71

0	8	3	3	5	0	2	1
72	73	74	75	76	77	78	79

VIII. FACILITY OWNER☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no.)

15	16											55	56	57	58	59	60	61	62	63	64	65		
3. STREET OR P.O. BOX															4. CITY OR TOWN									
5. ST.															6. ZIP CODE									

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

J. P. Mc Andrews

B. SIGNATURE

Vice-President-Finishes & Fabricated Products

C. DATE SIGNED

8/13/82

X. OPERATOR CERTIFICATION

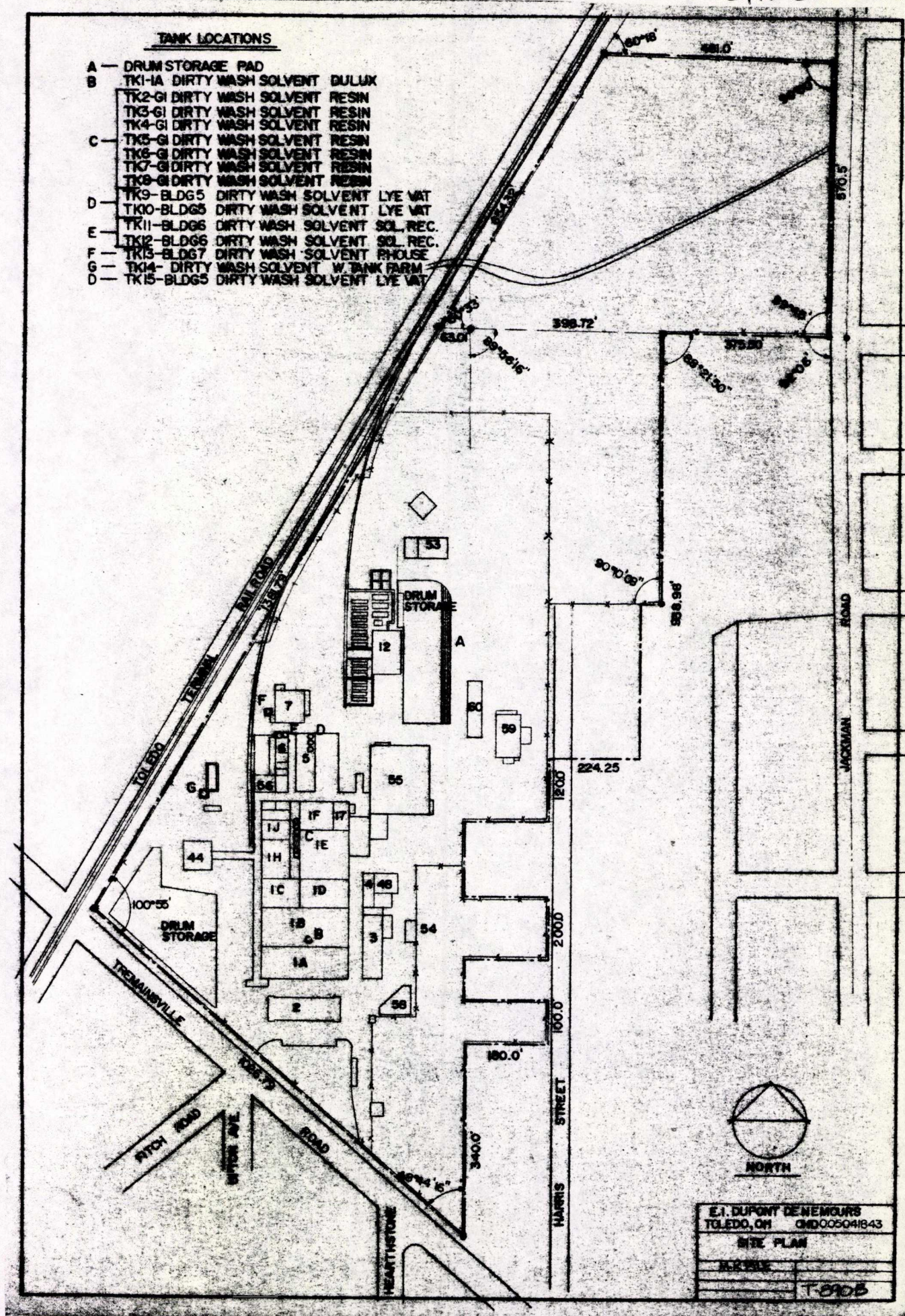
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

N/A

B. SIGNATURE

C. DATE SIGNED



U.S. ENVIRONMENTAL PROTECTION AGENCY - 9a -
NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

PLEASE PLACE LABEL IN THIS SPACE

FOR OFFICIAL USE ONLY

COMMENTS

INSTALLATION'S EPA I.D. NUMBER

APPROVED

DATE RECEIVED
(yr., mo., & day)

F 0 4 D 0 0 5 0 4 1 8 4 3

T/A C

1

I. NAME OF INSTALLATION

E I DUPONT DE NEMOURS & COMPANY INC

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

3 1 9 3 0 T R E M A I N S V I L L E R O A D

CITY OR TOWN

ST.

ZIP CODE

4 T O L E D O

O H 4 3 6 1 3

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

5 S A M E

CITY OR TOWN

ST.

ZIP CODE

6

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)

PHONE NO. (area code & no.)

S H E M E C H K O J E R O M E W S E R V I C E S U P 4 1 9 . 4 7 8 . 1 2 1 1

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

8 E I DUPONT DE NEMOURS & COMPANY INC

B. TYPE OF OWNERSHIP
(enter the appropriate letter into box)

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

F = FEDERAL
M = NON-FEDERAL

M

☒ A. GENERATION☐ B. TRANSPORTATION (complete item VII)☒ C. TREAT/STORE/DISPOSE☐ D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only - enter "X" in the appropriate box(es))

☐ A. AIR☐ B. RAIL☐ C. HIGHWAY☐ D. WATER☐ E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

☒ A. FIRST NOTIFICATION☐ B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary. (See attached sheet)

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. (See 40 CFR Parts 261.21 - 261.24.)

☒ **TOXIC**
(P000)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

DATE SIGNED

8/11/50

FORM 1	 EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION -46- Consolidated Permits Program (Read the "General Instructions" before starting.)	I. EPA I.D. NUMBER F 0 H D 0 0 5 0 4 1 8 4 3
II. POLLUTANT CHARACTERISTICS INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third col if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your act is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.		GENERAL INSTRUCTIONS If a preprinted label has been provide it in the designated space. Review the ation carefully; If any of it is incorrec through it and enter the correct datz appropriate fill-in area below. Also, if the preprinted data is absent (the area left of the label space lists the info. that should appear), please provide it proper fill-in area(s) below. If the complete and correct, you need not c Items I, III, V, and VI (except VI-E must be completed regardless). Comp items if no label has been provided. F the instructions for detailed item tions and for the legal authorization: which this data is collected.	

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)			X
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X			D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)			
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)			X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)			X
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			X

III. NAME OF FACILITY	1 SKIP E I D U P O N T D E N E M O U R S & C O M P A N Y I N C
------------------------------	----------------------------------------------------------------

IV. FACILITY CONTACT	B. PHONE (area code & no.)
2 S H E M E C H K O J E R O M E W S E R V I C E S U P	4 1 9 4 7 8 1 2 1 1

V. FACILITY MAILING ADDRESS	D. ZIP CODE
3 1 9 3 0 T R E M A I N S V I L L E R O A D	4 3 6 1 3

VI. FACILITY LOCATION	F. COUNTY CODE (if known)
5 9 3 0 T R E M A I N S V I L L E R O A D	
6 T O L E D O	0 H 4 3 6 1 3

A. FIRST 7 2 8 5 1 (specify) PAINT AND ALLIED PRODUCTS		B. SECOND 7 (specify) N/A	
C. THIRD 7 (specify) N/A		D. FOURTH 7 (specify) N/A	

VIII. OPERATOR INFORMATION

A. NAME E I DU PONT DE NEMOURS & COMPANY, INC		B. Is the name listed in Item VIII-A all owner? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
--------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.) F - FEDERAL M - PUBLIC (other than federal or state) P (specify) S - STATE O - OTHER (specify) P - PRIVATE		D. PHONE (area code & no.) 3 0 2 7 7 4 3 8 9
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	-------------------------------------------------

E. STREET OR P.O. BOX 1 0 0 7 M A R K E T S T R E E T

F. CITY OR TOWN W I L M I N G T O N	G. STATE D E	H. ZIP CODE 1 9 8 9 8	IX. INDIAN LAND Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
----------------------------------------	-----------------	--------------------------	------------------------------------------------------------------------------------------------------------------------------------

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water) N F 2 1 6 * B X	D. PSD (Air Emissions from Proposed Sources) P N A
B. UIC (Underground Injection of Fluids) U N A	E. OTHER (specify) SEE ATTACHMENT
C. RCRA (Hazardous Wastes) R N A	F. OTHER (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

PRODUCTION OF PAINTS, RESIN, AND ASSOCIATED SURFACE COATING MATERIALS.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print) W. A. Bours III Vice President - Fabrics & Finishes	B. SIGNATURE William A. Bours	C. DATE SIGNED 11/18/80
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XIV. COMMENTS FOR OFFICIAL USE ONLY

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ADDITIONAL INFORMATION
FORM 1 (EPA FORM 3510-1)

E. I. Du Pont de Nemours & Company, Inc. E.P.A. I.D. Number OHD005041843
1930 Tremainsville Road
Toledo, Ohio 43613

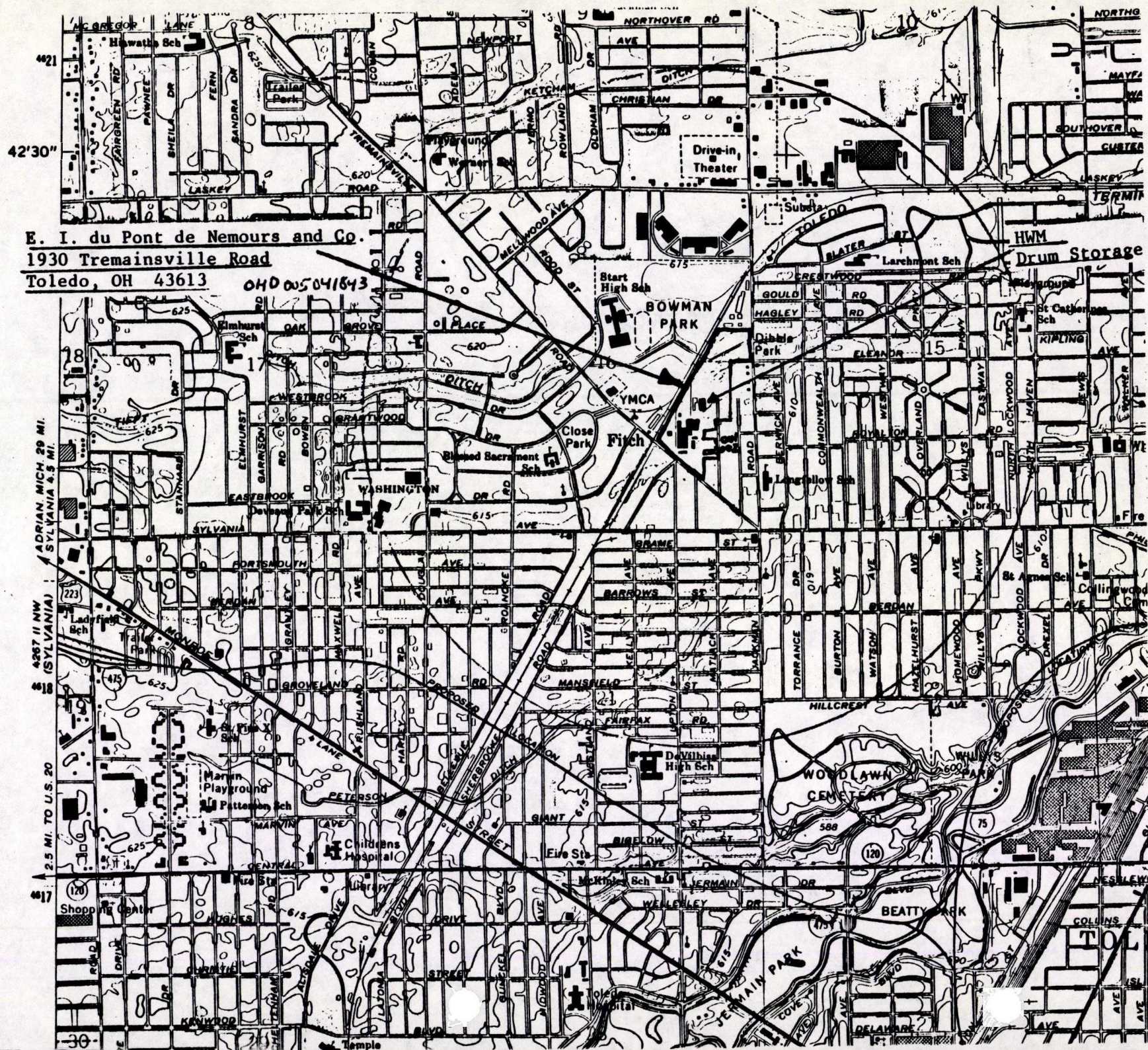
Additional information is provided for Section:

X Existing Environmental Permits

City of Toledo, Ohio Air emission permits

Nos.	<u>0448010058P002</u>
	<u>0448010058P003</u>
	<u>0448010058P004</u>
	<u>04-122</u>
	<u>0448010058P001</u>
	<u>0448010058R001</u>

SEE OVER

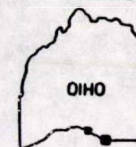


AMS 4267 II NE-SERIES V852

1965

TOLEDO, OHIO-MICH.
N4137.5-W8330/7.5

QUADRANGLE LOCATION



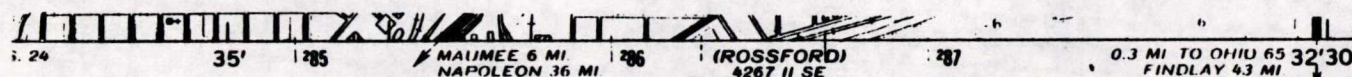
Heavy-duty —————
Medium-duty —————
Light-duty - - - - -
Unimproved dirt - - - - -
Interstate Route (thick solid line)
U.S. Route (thin solid line)
State Route (dashed line)

ROAD CLASSIFICATION

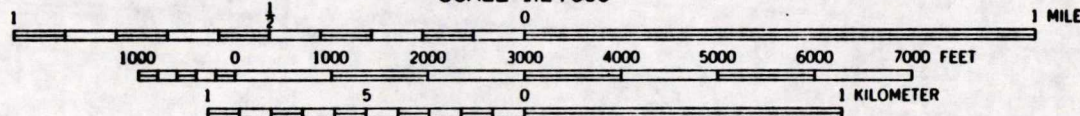
(WALBRIDGE)
4367 III SW

83-30

2890000 E
2 220 000 FEET (MICH.)
ROSSFORD 2 MI
PERRYSBURG 7 MI



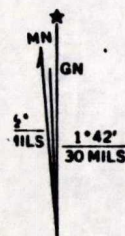
SCALE 1:24 000



CONTOUR INTERVAL 5 FEET

NATIONAL GEODETIC VERTICAL DATUM OF 1929

DEPTH CURVES AND SOUNDINGS IN FEET-DATUM IS LOW WATER 568.6 FEET



1965 MAGNETIC NORTH
AT CENTER OF SHEET

FOR SALE BY U. S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

I. EPA I.D. NUMBER											
F	O	H	D	0	0	5	0	4	1	8	4

FOR OFFICIAL USE ONLY

APPLICATION APPROVED		DATE RECEIVED (yr., mo., & day)				

COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below (mark one box only) to indicate whether this is the first application you are submitting for your facility revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION (place an "X" below and provide the appropriate date)

1. EXISTING FACILITY (See instructions for definition of "existing" facility. Complete item below.)

☐ 2. NEW FACILITY (Complete Item below)
FOR NEW FACILITY

yr.	mo.	day
34	04	
22 24	75 78	77 78

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED (use the boxes to the left)

YR.		MO.		DAY	
73	74	75	76	77	78

B. REVISED APPLICATION (place an "X" below and complete Item 1 above)

☐ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE - Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, describe the process (including its design capacity) in the space provided on the form (Item III-C).

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. **AMOUNT** - Enter the amount.
2. **UNIT OF MEASURE** - For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY	PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:			Treatment:		
CONTAINER (barrel, drum, etc.)	201	GALLONS OR LITERS	TANK	T01	GALLONS PER DAY OR LITERS PER DAY
TANK	202	GALLONS OR LITERS	SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
WASTE PILE	203	CUBIC YARDS OR CUBIC METERS		T03	TONS PER HOUR OR METRIC TONS PER HOUR
SURFACE IMPOUNDMENT	204	GALLONS OR LITERS	INCINERATOR	T04	GALLONS PER DAY OR LITERS PER DAY
Land:			OTHER (Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)		
EXCAVATION WELL	D79	GALLONS OR LITERS			
LANDFILL	D80	ACRE-Feet (the volume that would cover one acre to a depth of one foot) OR HECTARE-METER			
LAND APPLICATION	D81	ACRES OR HECTARES			
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY			
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS			
UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE
GALLONS	G	LITERS PER DAY	V	ACRE-Feet	AF
LITERS	L	TONS PER HOUR	D	HECTARE-METER	HM
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	A
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	H
GALLONS PER DAY	U	LITERS PER HOUR	M		

EXAMPLE FOR COMPLETING ITEM III (shown in line numbers X-1 and X-2 below): A facility has two storage tanks, one tank can hold 200 gallons and other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C			DUP						T/A C														
			1																				
LINE NUMBER			B. PROCESS DESIGN CAPACITY						FOR OFFICIAL USE ONLY			LINE NUMBER			B. PROCESS DESIGN CAPACITY								
A. PROCESS CODE (from list above)			1. AMOUNT (specify)						2. UNIT OF MEASURE (enter code)			A. PROCESS CODE (from list above)			1. AMOUNT (specify)						2. UNIT OF MEASURE (enter code)		
X-1	S	0 2	600						G			5											
X-2	T	0 3	20						E			6											
	S	0 1	250,000						G			7											
2	S	0 2	30,000						G			8											
3												9									12		
4												10											

PLACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04"). FOR EACH PROCESS ENTERED HERE
INCLUDE DESIGN CAPACITY.

DESCRIPTION OF HAZARDOUS WASTES

UNIT OF MEASURE - For each quantity entered in column 8 enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

METRIC UNIT OF MEASURE	CODE
KILOGRAMS	K
METRIC TONS	M

PROCESSES

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimate 50 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

UNIT NO.	A. EPA HAZARD WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES							
	1. PROCESS CODES (enter)						2. PROCESS DESCRIPTION (if a code is not entered in D(1))							
K-1	K	0	5	4	900	P	T	0	3	D	8	0		
K-2	D	0	0	2	400	P	T	0	3	D	8	0		
K-3	D	0	0	1	100	P	T	0	3	D	8	0		
	D	0	0	2	13								included with above	

EPA I.D. NUMBER (enter from page 1)															FOR OFFICIAL USE ONLY														
W O H D 0 0 5 0 4 1 8 4 3 1															W DUP 2 DUP														

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

N.	A. EPA HAZARD. WASTE NO. (enter code)				B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES								2. PROCESS DESCRIPTION (if a code is not entered in D(1))
	27	28	29	30			1. PROCESS CODES (enter)								
	27	28	29	30		31	32	33	34	35	36	37	38	39	40
1	K	0	7	8	1,000,000	P	S	0	1	S	0	2			
2	F	0	0	3	1,240,000	P	S	0	1						
3	F	0	0	5											Included with the above
4	U	1	2	2	20,000	P	S	0	1						
5	D	0	0	1	4,000,000	P	S	0	1						
6	D	0	0	7											
7	D	0	0	8											Included with the above
8	D	0	0	2	2,500	P	S	0	1						
9	D	0	0	3	60,000	P	S	0	1						
10	D	0	0	1											Included with the above
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

N/A

EPA I.D. NO. (enter from page 1)

F C H D 0 0 5 0 4 1 8 4 3 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility (see instructions for more detail).

VI. PHOTOGRAPHS

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)

LONGITUDE (degrees, minutes, & seconds)

41 41 041

083 35 021

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER

2. PHONE NO. (area code & no)

3. STREET OR P.O. BOX

4. CITY OR TOWN

5. ST.

6. ZIP CODE

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

W. A. Bours III
Vice President-Fabrics & Finishes

William A. Bours

11/18/80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)

B. SIGNATURE

C. DATE SIGNED

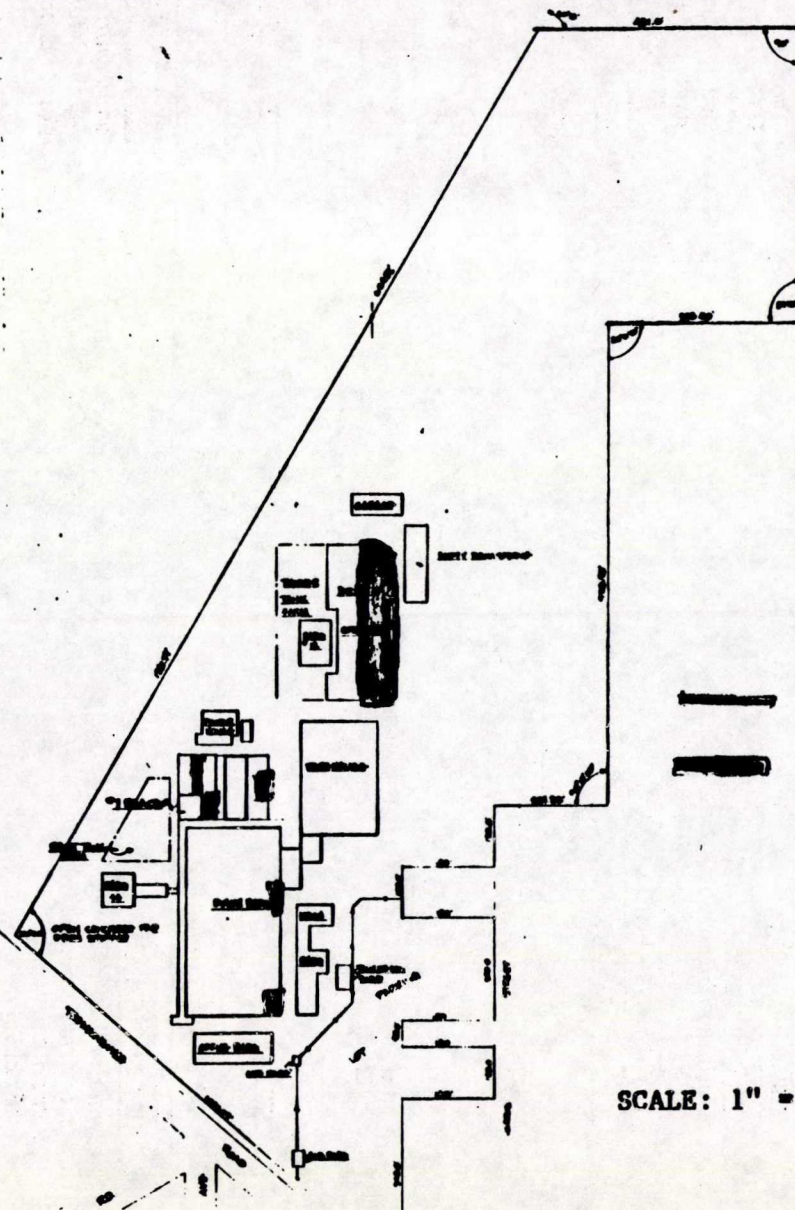
N/A

15

ANALYZE FOR SAFETY, BIOLOGY, AND MINIMUM ESSENTIAL DESIGN

E. I. DU PONT DE NEMOURS & CO. INC.
1930 TREMAINSVILLE ROAD
TOLEDO, OHIO 43613

OHD005041843



TANK STORAGE

DRUM STORAGE

FRONT - 100 WIDE X 180

BACK - 120 WIDE X 130

SCALE: 1" = 353' (approx.)

NO.	BLK.	PRJ.	SA.	TYPE
107				

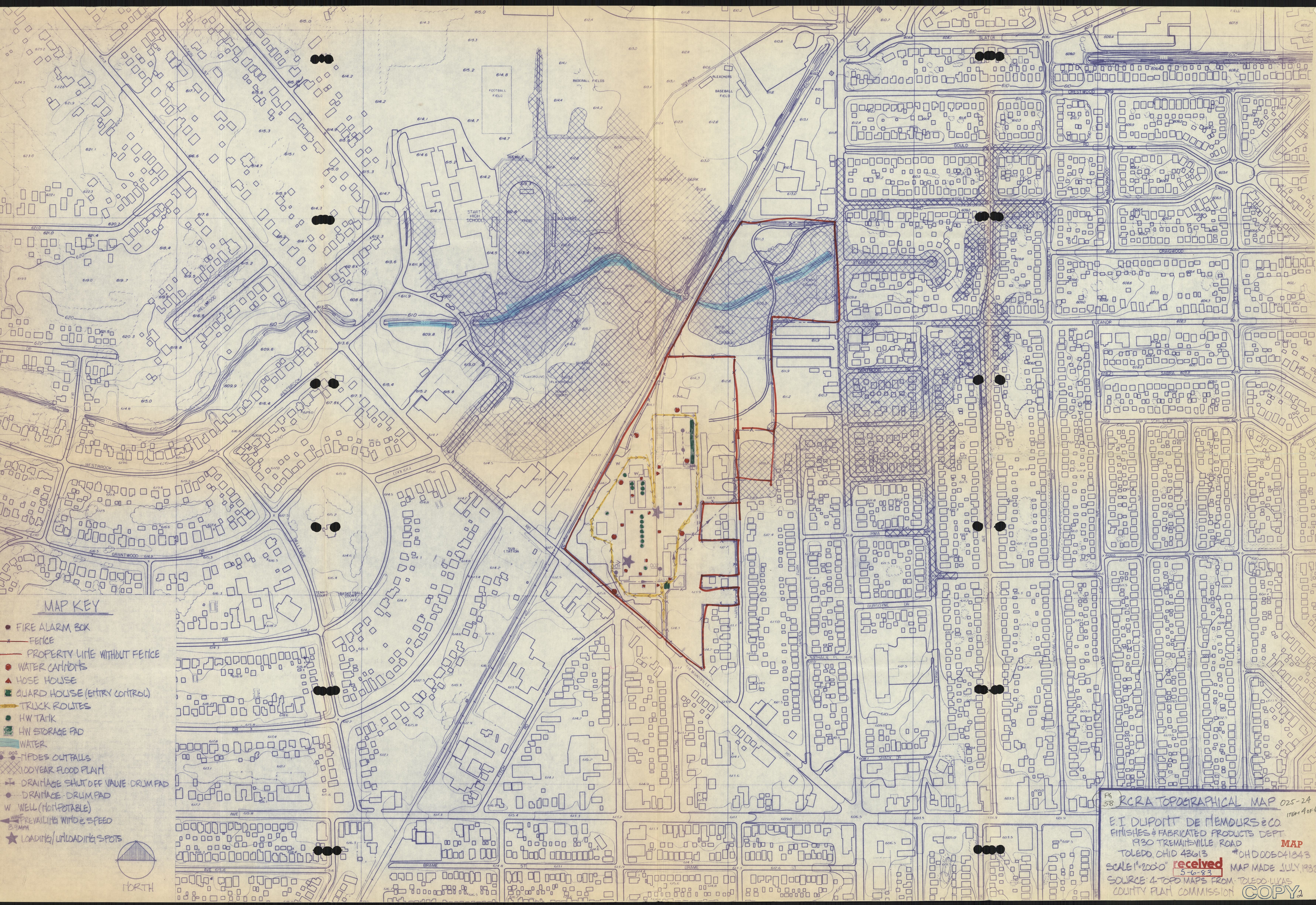
B. FACILITY DESCRIPTIONB-1. GENERAL DESCRIPTION

THIS HWM FACILITY IS FOR STORAGE OF RCRA HW GENERATED INCIDENT TO MANUFACTURING PAINT BY DU PONT'S FINISHES & FABRICATED PRODUCTS (F&FP) DEPARTMENT ONLY. NO REGULATED TREATMENT OR DISPOSAL ACTIVITIES ARE CARRIED OUT AT THIS SITE. MOST OF THE HW STORED IN THE FACILITY WILL BE GENERATED ON SITE FOR ULTIMATE DISPOSAL BY CONTRACT OFF-SITE. SOME OF THE SPENT SOLVENT (F003, F005) WASTES WILL BE RECOVERED ON-SITE AS WE HAVE DONE FOR 25 YEARS. OTHER SPENT SOLVENT WASTES (DIRTY WASH SOLVENT) WITH NO PIGMENTATION (HEAVY METALS) ARE BURNED IN OUR INDUSTRIAL STEAM BOILERS FOR FUEL VALUE (ABOUT 16,000 BTU PER POUND COMPARED TO ABOUT 19,000 FOR FUEL OIL). THIS FUEL VALUE RECOVERY HAS SAVED ABOUT 33 BILLION BTU/YEAR SINCE 1978.

THE OFF-SITE WASTE RECEIVED IS ONLY FROM OTHER F&FP DEPARTMENT SITES WHOSE RCRA PROGRAMS ARE IDENTICAL WITH TOLEDO'S (E.G., THE SAME WASTE CHARACTERIZATION PROCEDURE FOR ADEQUATE HANDLING AND STORAGE). MATERIAL IS MANIFESTED FROM THOSE SITES IN ACCORDANCE WITH APPROPRIATE 40 CFR PART 262, 263, AND 265 AND STATE REGULATIONS. THE SITES WHICH SEND OR WILL SEND HW ARE:

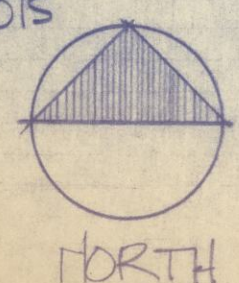
- O CHICAGO, IL PLANT (ILD 004959433): DIRTY WASH SOLVENT FOR FUEL VALUE RECOVERY; NOW SHIPPED IN DRUMS.
- O ELINT, MI PLANT (MID 005512066): DIRTY WASH SOLVENT FOR SOLVENT RECOVERY; WILL BE SENT IN BULK.

HW IS STORED ON ONE CONTAINER PAD AND IN 6 TANK LOCATIONS. THESE TANKS CONTAIN ONLY DIRTY WASH SOLVENT DESTINED FOR RECOVERY. THE CONCRETE PAD ALSO CONTAINS FINISHED PRODUCT IN



MAP KEY

- FIRE ALARM BOX
- FENCE
- PROPERTY LINE WITHOUT FENCE
- WATER CANNONS
- ▲ HOSE HOUSE
- GUARD HOUSE (ENTRY CONTROL)
- TRUCK ROUTES
- HW TANK
- HW STORAGE PAD
- WATER
- PDES OUTFALLS
- 100-YEAR FLOOD PLAIN
- DRAINAGE SHUTOFF VALVE-DRUM PAD
- DRAINAGE-DRUM PAD
- W WELL (NON-POTABLE)
- PREVAILING WIND SPEED
- ★ LOADING/UNLOADING SPOTS

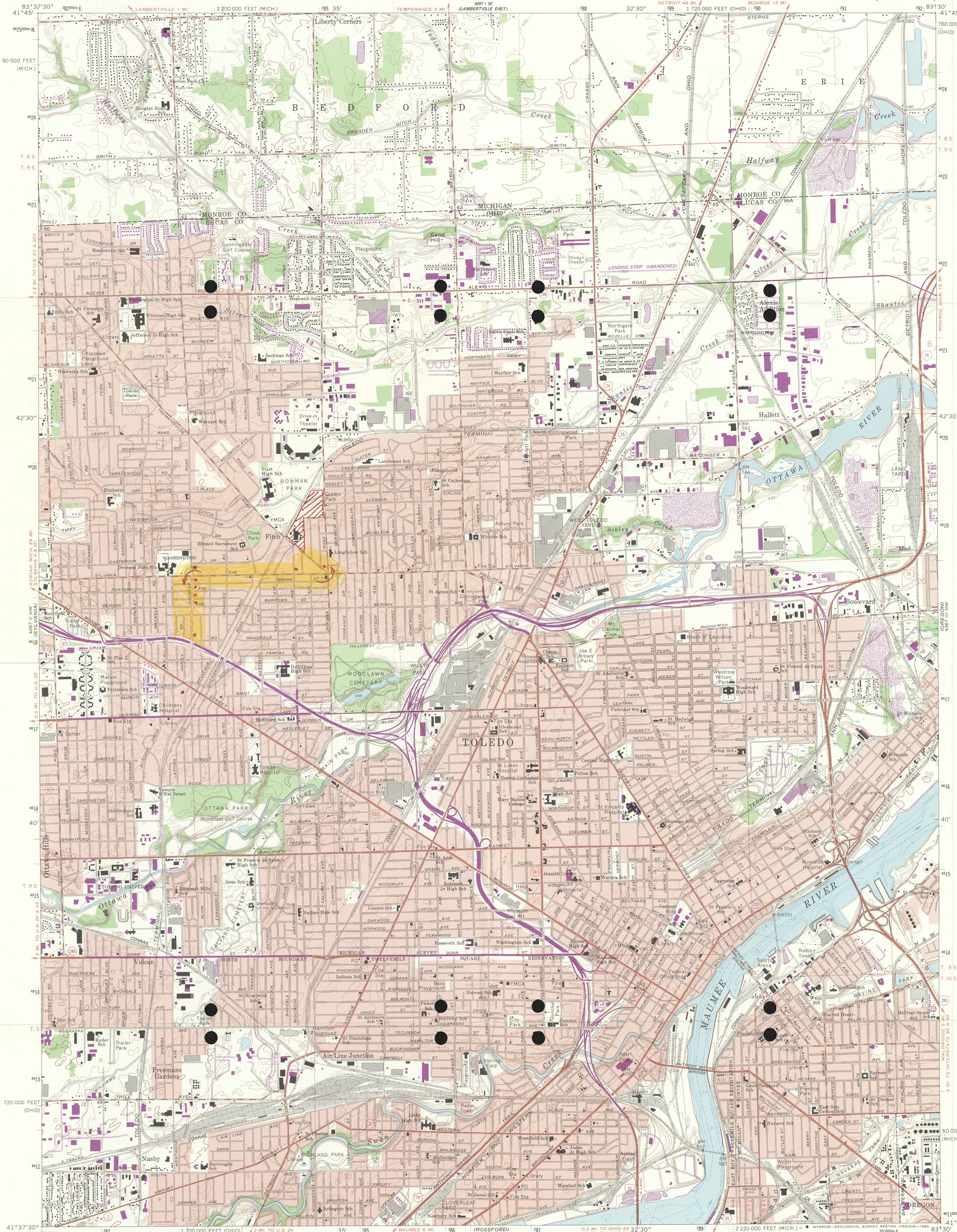


RCRA TOPOGRAPHICAL MAP 025-24
E.I. DUPONT DE NEMOURS & CO.
FINISHES & FABRICATED PRODUCTS DEPT.
1930 TREMAINTVILLE ROAD
TOLEDO, OHIO 43613
SCALE: 1"=200' 5-6-83
SOURCE: 4-TOPO MAPS FROM TOLEDO-LIVAS
COUNTY PLAN COMMISSION
MAP MADE JULY, 1983
COPY 2

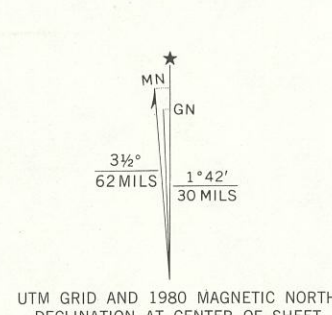
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

TOLEDO QUADRANGLE
OHIO-MICHIGAN
7.5 MINUTE SERIES (TOPOGRAPHIC)

ORIGINAL
FROM PART B



Mapped, edited, and published by the Geological Survey
Revised in cooperation with State of Ohio agencies
Control by USGS and NOS/NOAA
Topography by planetable surveys 1934. Revised 1965
Selected hydrographic data compiled from U. S. Lake Survey chart 374
(1965). This information is not intended for navigational purposes
Polyconic projection. 10,000-foot base on Ohio coordinate
system, north zone, and Michigan coordinate system, south zone
1000-meter Transverse Mercator grid ticks
zone 17, shown in blue. 1927 North American Datum
To place on the predicted North American Datum 1983
move the projection lines 1 meter south and
6 meters west as shown by dashed corner ticks
Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information not checked
Red tint indicates areas in which only landmark buildings are shown
Land lines within the Michigan Survey on the Michigan meridian



SCALE 1:24,000
CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
DEPTH CURVES AND SOUNDINGS IN FEET-DATUM OF 1929 WATER 568.6 FEET
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Revisions shown in purple compiled in cooperation with State of
Ohio agencies from aerial photographs taken 1977 and other
source data. This information not field checked. Map edited 1980

ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
Interstate Route ——— U.S. Route ——— State Route ———
TOLEDO, OHIO-MICH.
N4137.5-W8330.7.5
1965
PHOTOREPRODUCED 1980
DMA 4267 II NE-SERIES V852

received
5-6-83
MAP 1
Pg. 40
COPY 2

B. FACILITY DESCRIPTIONB-1. General Description

This HWM facility is for storage of RCRA HW generated incident to manufacturing paint by Du Pont's Finishes & Fabricated Products (F&FP) Department only. No regulated treatment or disposal activities are carried out at this site. Most of the HW stored in the facility will be generated on site for ultimate disposal by contract off-site. Some of the spent solvent (F003, F005) wastes will be recovered on-site as we have done for 25 years. Other spent solvent wastes (dirty wash solvent) with no pigmentation (heavy metals) are burned in our industrial steam boilers for fuel value (about 16,000 BTU per pound compared to about 19,000 for fuel oil). This fuel value recovery has saved about 33 billion BTU/year since 1978.

The off-site waste received is ONLY from other F&FP Department sites whose RCRA programs are identical with Toledo's (e.g., the same waste characterization procedure for adequate handling and storage). Material is manifested from those sites in accordance with appropriate 40 CFR Part 262, 263, and 265 and state regulations. The sites which send or will send HW are:

- Chicago, IL Plant (ILD 004959433): dirty wash solvent for fuel value recovery; now shipped in drums.
- Flint, MI Plant (MID 005512066): dirty wash solvent for solvent recovery; will be sent in bulk.

HW is stored on one container pad and in 6 tank locations. These tanks contain only dirty wash solvent destined for recovery. The concrete pad also contains finished product in

-6-

HAZARDOUS WASTE MANAGEMENT ACTIVITY LOCATIONS(All Are Storage Only)

<u>Location Letter</u>	<u>Description*</u>	<u>Location</u>
A	Container Pad	Drum Storage Pad
B	1 Collection Tank	Dulux® Building
C	2 Multiple compartment Collection Tanks	G Aisleway, Resin Area
D	3 Storage Tanks	Lye Vat Room, Building 5
E	2 Feed Tanks	Solvent Recovery, Building 6
F	1 Feed Tank	West of Boiler House, Bldg.
G	1 Storage Tank	West Tank Farm

*All tanks contain dirty wash solvent destined for recovery.

separate stacks. All drums are on pallets and any portable tanks in use have their own legs. The fixed tanks are all carbon steel and not affected by contact with organic solvents. Likewise, the steel drums or portable tanks (magnesium or aluminum) are not corroded or decayed by the paint wastes.

The 7 HWM activity locations are within the fenced plant site where most of the raw materials, intermediates and finished products exhibit the same principle hazard characteristic as almost all the waste streams--ignitability. Du Pont has operated several paint plants with this prevalent hazard since before 1920. The fire prevention and emergency preparedness programs at these sites have successfully prevented any major fire and quickly contained the few small ones that occurred over 60+ years (nearly 50 at this site). Much of the planning, training, prevention activities and general emergency response awareness described in Sections F, G and H of this application have been in effect for decades.

The plant primary processes fall under SIC 2851, Paint and Allied Products. Paint formulating generally is a simple, batch process mixing three primary ingredients:

- Pigments - organic and inorganic materials that give opacity, color and durability to the final paint film.
- Resins - Organic polymers that form the film, hold the pigment in place, and give adhesion to the substrate.

- Solvents - Usually an organic compound (can be water for some products), normally non-halogenated, designed to suspend the resin and pigment prior to application, make application easy and to evaporate after application. Other ingredients may be added to facilitate flow-out, drying, film flexibility, etc.

Pigments used are received normally as a coarse dust which must be ground to finer particles and mixed into resin(s). Then solvents and other ingredients are mixed in and color, viscosity, gallon weight and other properties are adjusted. The finished product is then packaged in any of a large array of packages for shipment (F&FP Department uses 1/2 pints to tank wagons).

Several thousand active, different formulations are made from time to time at the plant. These vary in color and/or resin types. Hence, considerable effort is expended on cleaning between batches--usually with a suitable wash solvent--of grinders, mixers and filling equipment. The solvent is a valuable material that can not economically be discarded. Hence, the spent solvent is distilled for reuse as wash solvent. The still bottoms are a listed HW (F003 and F005 due to solvent mixtures used). Dust collectors generate a hazardous waste stream due to content of Lead and Chromate compounds which are readily soluble in the EP Toxicity test.

The plant produces many of its own resins in a series of reaction kettles. These normally require heating raw materials to form the polymers. Washing of resin equipment, tanks, filters and

lines between batches also generates spent solvent. Since solvent recovery of pigmented production washes usually produces sufficient wash solvent for reuse, resin washes are normally designated for their next most economical use--fuel value recovery.

The HW received from the other F&FP Department sites is only dirty wash solvent from cleaning resin and/or paint making equipment. All other HW's at those sites are sent off-site to contract disposal under RCRA and state regulations.

B-2. Topographic Map

Immediately following this introductory section is a fold-out topographical map (1"=200') showing the plant site and the immediate neighborhood. Because of the myriad of detail to be included on the map, many of the items are shown in color (e.g., red dots for fire hydrants, deluge guns, hose boxes, etc. around the site). Many fire control items--such as sprinklers in buildings--are not shown in detail but are listed in Section F. The Flood Plain Zone information came from the maps in Section B-3b obtained from the city of Toledo.

Both the 1"=200' map and the map (1"=2000') in Section A show the surrounding land uses to be primarily residential and school, with some light commerce and industry, railroad and park land. The 1"=200' map was prepared from sectional maps obtained from the City of Toledo, Division of Inspection. The 1"=2000' map came from the U.S. Geological Survey.

Detailed meteorological data for 1981 (in lieu of an unavailable wind rose) is attached showing the 1981 predominate wind direction in Toledo to be West at 8.9 miles per hour. This was obtained from Rick Uscilowski, Environmental Services Agency, City of Toledo.

In addition, 2 plant drawings are included which show more details of the site fire protection system and Hazardous Waste Management activity locations.

HAND TURNS ARE INDICATED BY RED DIRECTIONAL ARROWS IN THE HIGHLIGHTED AREA. TRAFFIC TYPES INVOLVED IN THREE WASTE CATEGORIES ARE:

- 0 OFF-SITE SPENT SOLVENT FROM OTHER F&P SITES--PRESENTLY ESTIMATED TO BE:
 - A. CHICAGO: 154 DRUMS OR 2 TRUCKS PER YEAR.
 - B. FLINT: 70 TANK WAGONS (5,000 GALLONS EACH) PER YEAR.
- 0 ON-SITE SPENT SOLVENT IS COMPLETELY IN PIPES AND TANKS--NO TRAFFIC.
- 0 ON-SITE DRUMED HW (MOVED BY PLANT FORK TRUCKS FROM BUILDINGS WHERE GENERATED TO THE STORAGE PAD PRIOR TO SHIPMENT OFF-SITE FOR CONTRACT DISPOSAL: ABOUT 800 DRUMS AND 25 PORTABLE TANKS OR 2,025 FORK TRUCK TRIPS PER YEAR.

IN ADDITION, HW IS SHIPPED OFF-SITE IN DRUMS (100 TRUCKLOADS PER YEAR) AND 12 TANK WAGONS (2,500 GALLONS EACH) OF WASTE PUMPED FROM DRUMS FOR BULK TRANSPORT.

REFERENCE SHOULD BE MADE TO THE 1:24,000 MAP IN THE REVISED PART A APPLICATION (AS WELL AS THE 1" = 200' MAP IN SECTION B-1) FOR TRUCK ROUTING. ALTHOUGH NOT ALWAYS TRUE, MOST OUT-OF-TOWN TRAFFIC WOULD COME TO THE PLANT FROM INTERSTATE 475 VIA DOUGLAS TO SYLVANIA TO TREMAINSVILLE. THESE ARE BUSY CITY STREETS WITH NORMAL TRAFFIC LIGHT CONTROLS BY THE CITY. THERE IS ROOM FOR 4 TRACTOR-TRAILER UNITS INSIDE THE PLANT GATE OFF TREMAINSVILLE ROAD (TRUCK SCALE IS ALSO THERE).

THE ENTIRE PLANT ROAD SURFACE IS PAVED WITH CONCRETE OR

BLACK TOP TO SUPPORT THE FULL TRUCKS (75,000 POUNDS) THAT REGULARLY DELIVER RAW MATERIALS AND TAKE OUR FINISHED PRODUCT AND WASTE SHIPMENTS. THE SPECIFICATIONS USED FOR CONTRACTING PAVING WORK ARE:

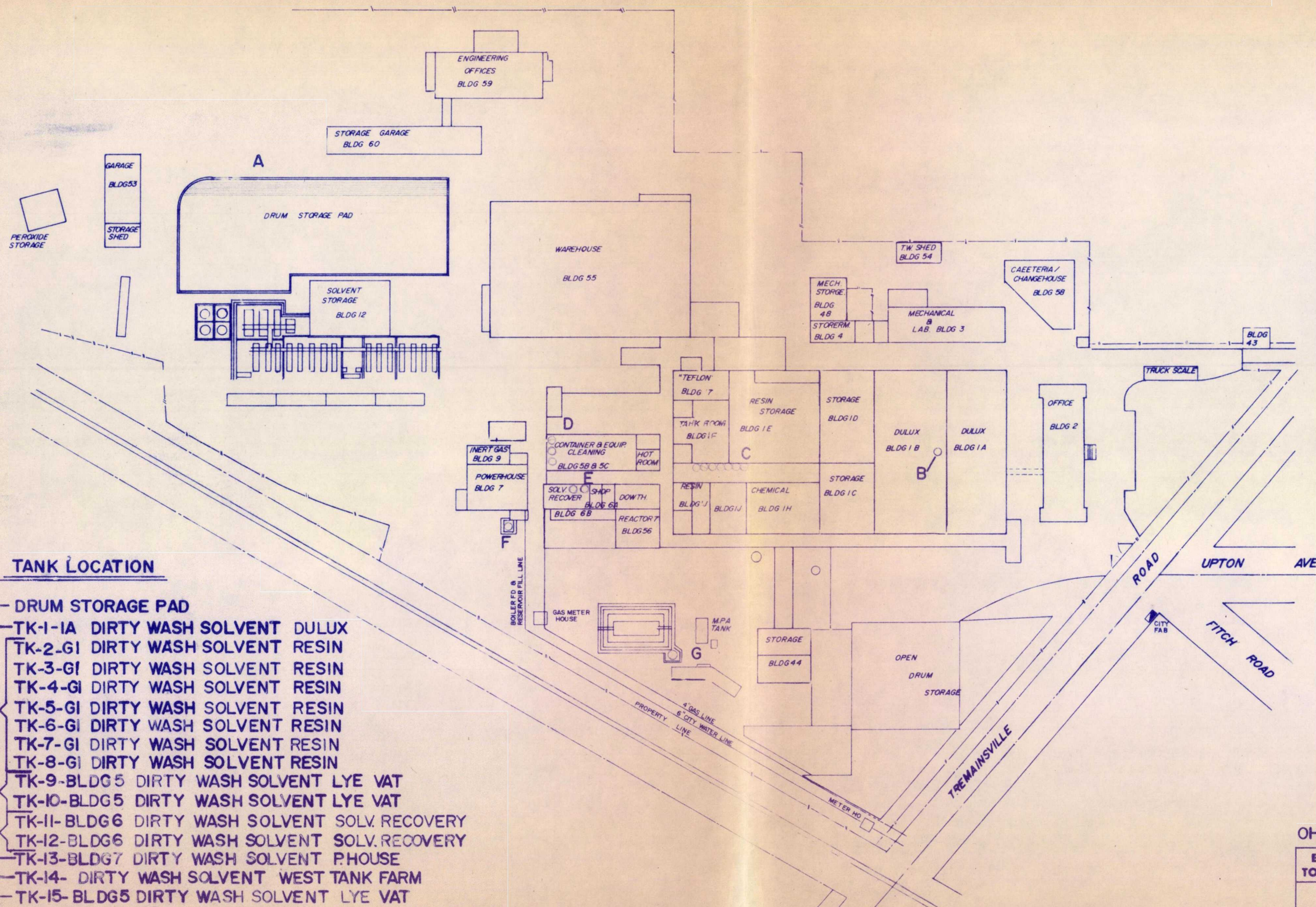
- 0 CONCRETE: 6 INCHES OF 3,000 PSI (MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS) CONCRETE; SPECIFICATIONS (SUCH AS 2" AGGREGATE, 445 LBS. OF PORTLAND CEMENT/CUBIC YARD, ETC.) ARE GIVEN IN DU PONT ENGINEERING STANDARD SB-U-CONCRETE; REINFORCING IS 6 INCH BY 6 INCH WELDED WIRE FABRIC (ASTM STANDARDS A185 OR A497). WIRE CONFORMS TO ASTM STANDARD A82.
- 0 BLACK-TOP: 2 INCHES (MINIMUM) OF HOT-MIXED, HOT-LAID ASPHALTIC CONCRETE, CONSISTING OF 1-1/4 INCH OF BINDER COURSE AND 3/4 INCH OF WEARING COURSE OVER SIX INCHES OF STONE. SPECIFIC COMPOSITIONS, GRADES, COMPACTION SPECIFICATIONS, ASTM STANDARDS APPLICABLE, ETC. ARE GIVEN IN DU PONT ENGINEERING STANDARDS (SC-R-ROADS).

NO INTERNAL TRAFFIC CONTROL IS EXERCISED EXCEPT BY THE WAREHOUSE SUPERVISOR WHO IS NOTIFIED BY A GUARD OF EVERY INCOMING SHIPMENT. CONTROL CONSISTS OF EXAMINING PAPERS AND DIRECTING TRUCKERS TO APPROPRIATE LOADING/UNLOADING LOCATIONS.

WITH ALL PERMANENT ROADWAY SURFACES AND RELATIVELY LITTLE HW TRUCK VOLUME (ABOUT 3/4 OF A TRUCK OF HW PER DAY INCLUDING RECEIPTS AND SHIPMENTS--ALL KNOWN AHEAD OF TIME AND SCHEDULED ARRIVALS), HW TRAFFIC CONSIDERATIONS FOR THIS STORAGE FACILITY ARE MINIMAL.

Meteorological Data For Current Year

Station	TOLEDO, OHIO 9 44 33 N										TOLEDO EXPRESS AIRPORT										Standard time used.										EASTERN										Latitude 41 36 N										Longitude 83 40 W										Elevation (ground) 669 feet										Year 1981									
Month	Temperature °F										Degree days Base 65 °F		Precipitation in inches						Relative humidity, p.c.t.				Wind						Average station pressure mb	Number of days																																																		
	Averages					Extremes							Water equivalent			Snow, ice pellets			Resultant		Fastest mile				Sunrise to sunset						Temperature °F																																																	
																	Minimum																																																															
	Daily maximum	Daily minimum	Monthly	Highest	Lowest	Meaning	Coolest	Total	Greatest in 24 hrs.	Date	Total	Greatest in 24 hrs.	Date	Hour 01	Hour 07	Hour 13	Hour 19	Direction	Speed m.p.h.	Average gust m.p.h.	Speed m.p.h.	Direction	Date	Percent of possible sunshine	Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more		Snow, ice pellets 1.0 inch or more	Thunderstorms	Heavy fog, visibility 1/4 mile or less	90° and above (b)	32° and below	27° and below	0° and below	Elev. feet m.s.l.																																											
JAN	25.4	9.7	17.6	45	26	-13	8	1464	0	0.40	0.26	6-7	6.9	2.0	6-7	01	01	74	75	26	6.9	9.0	26	45	6.7	4	0	17	16	3	0	4	0	25	30	9	992.																																											
FEB	36.9	20.0	28.5	57	18	-3	12	1015	0	3.27	1.61	10-11	11.2	7.7	10	02	03	74	78	23	6.7	11.9	30	54	2	36	0.0	3	5	20	14	2	2	7	0	4	23	3	989.																																									
MAR	66.2	26.7	36.5	79	31	10	18	879	1	0.63	0.22	29-30	3.6	3.0	19-20	75	01	54	60	28	5.5	11.0	36	54	15	66	0.0	6	0	15	9	1	0	0	3	26	0	988.																																										
APR	61.2	38.5	59.9	76	3	25	21	650	0	3.94	1.11	27-28	0.0	0.0		79	00	57	62	24	3.0	10.5	48	47	17	50	0.0	6	0	16	10	0	0	0	0	9	991.																																											
MAY	66.1	44.6	65.4	86	24	31	8	309	17	2.30	0.66	14-15	0.0	0.0		78	04	57	56	04	1.5	9.1	24	47	10	50	0.0	9	5	17	10	0	0	0	0	2	0	990.																																										
JUN	78.8	57.9	68.4	90	29	40	1	74	132	0.40	2.65	13-14	0.0	0.0		82	04	58	62	25	0.1	9.1	37	44	24	56	6.5	4	12	14	14	0	11	0	1	0	0	988.																																										
JUL	80.9	65.4	71.7	93	9	47	23	7	220	3.72	1.02	24	0.0	0.0		88	02	54	59	36	0.5	6.3	20	47	5	54	5.3	10	7	14	9	0	5	0	4	0	0	991.																																										
AUG	80.5	59.0	69.0	85	13	44	18	15	170	2.28	0.92	31	0.0	0.0		66	09	59	65	22	1.5	6.2	19	47	15	67	6.0	7	12	12	0	0	5	1	0	0	0	991.																																										
SEP	70.1	52.4	61.3	85	13	37	24	169	64	6.05	2.71	3-4	0.0	0.0		91	03	60	78	29	2.5	7.5	34	54	26	61	0.0	6	9	16	15	0	4	0	0	0	0	991.																																										
OCT	57.8	17.5	47.7	68	31	20	24	529	0	3.79	1.92	26-27	7	7	23	06	07	63	75	30	1.4	9.1	35	54	10	67	6.4	7	10	14	11	0	3	0	0	0	0	994.																																										
NOV	49.0	10.2	39.6	68	4	16	23	754	0	0.84	0.54	19-20	0.0	0.0	20-21	06	08	67	76	28	0.8	9.1	41	47	26	48	6.6	5	10	15	7	0	1	4	0	1	19	0	992.																																									
DEC	33.2	21.5	27.4	57	1	1	18	1140	0	2.93	0.90	22-23	14.9	3.5	21-22	00	05	73	77	26	4.2	9.6	24	54	27	35	7.4	4	10	17	12	5	0	0	13	20	0	991.																																										
YEAR	57.3	38.3	47.8	93	JUL 9	-13	JAN 8	6775	606	38.39	2.71	3-4	37.4	7.7	FEB 10	82	05	63	69	26	2.9	6.9	48	47	17	55	6.7	75	103	167	137	11	35	16	5	51	101	12	991.																																									



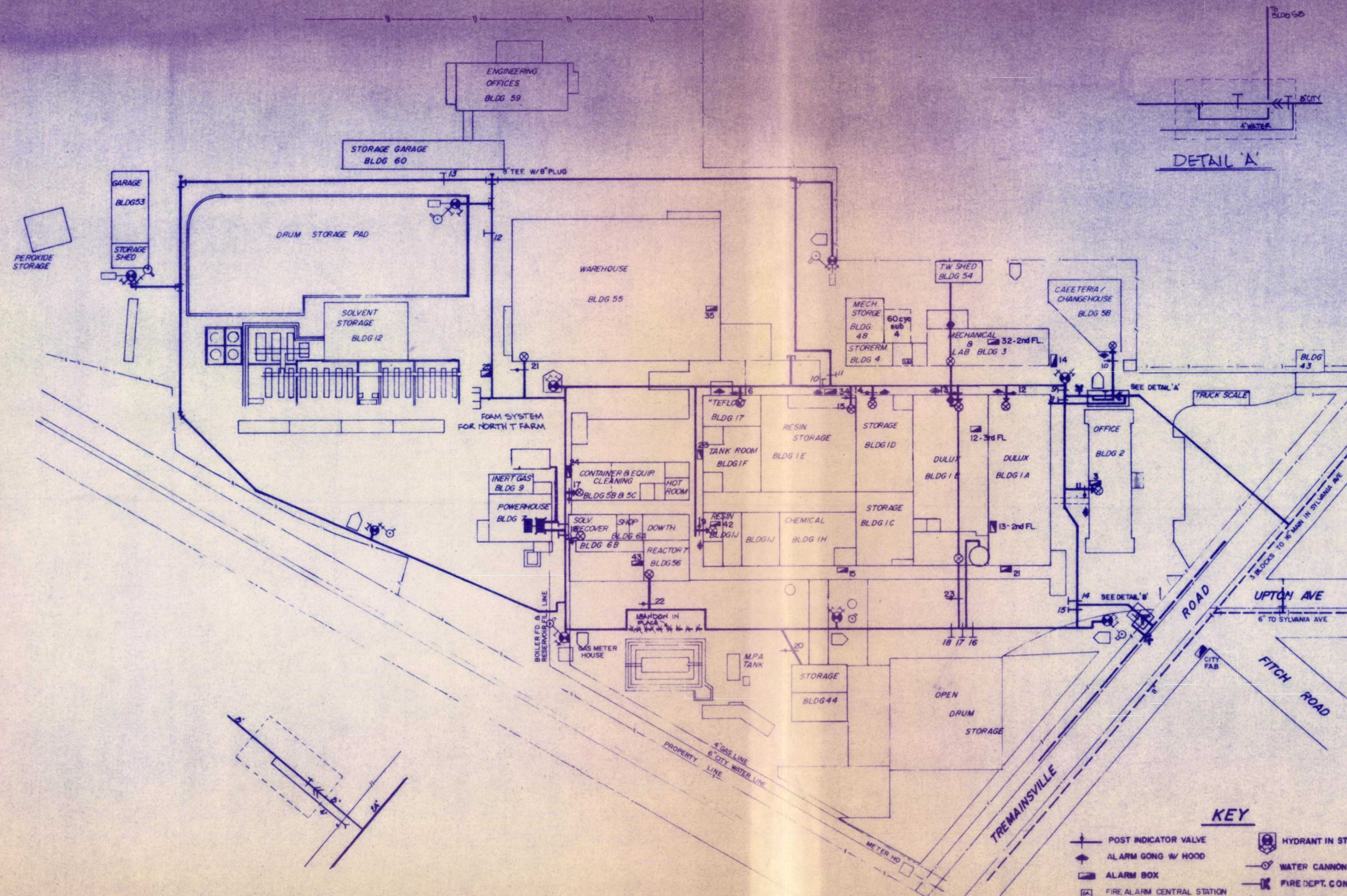
ALL TANKS CONTAIN DIRTY WASH SOLVENT DESTINED FOR RECOVERY

OHD 005041843

E. I. DUPONT DE NEMOURS & CO.
 TOLEDO PLANT TOLEDO, OHIO

TOLEDO F&E
 SITE PLAN

Drawn By	M.R. PILE	Date	JULY 13, 1982
Checked By		Bldg. No.	
Approved			
Scale	1" = 50'		T-890A



DETAIL 'A'



DETAIL 'B'

KEY

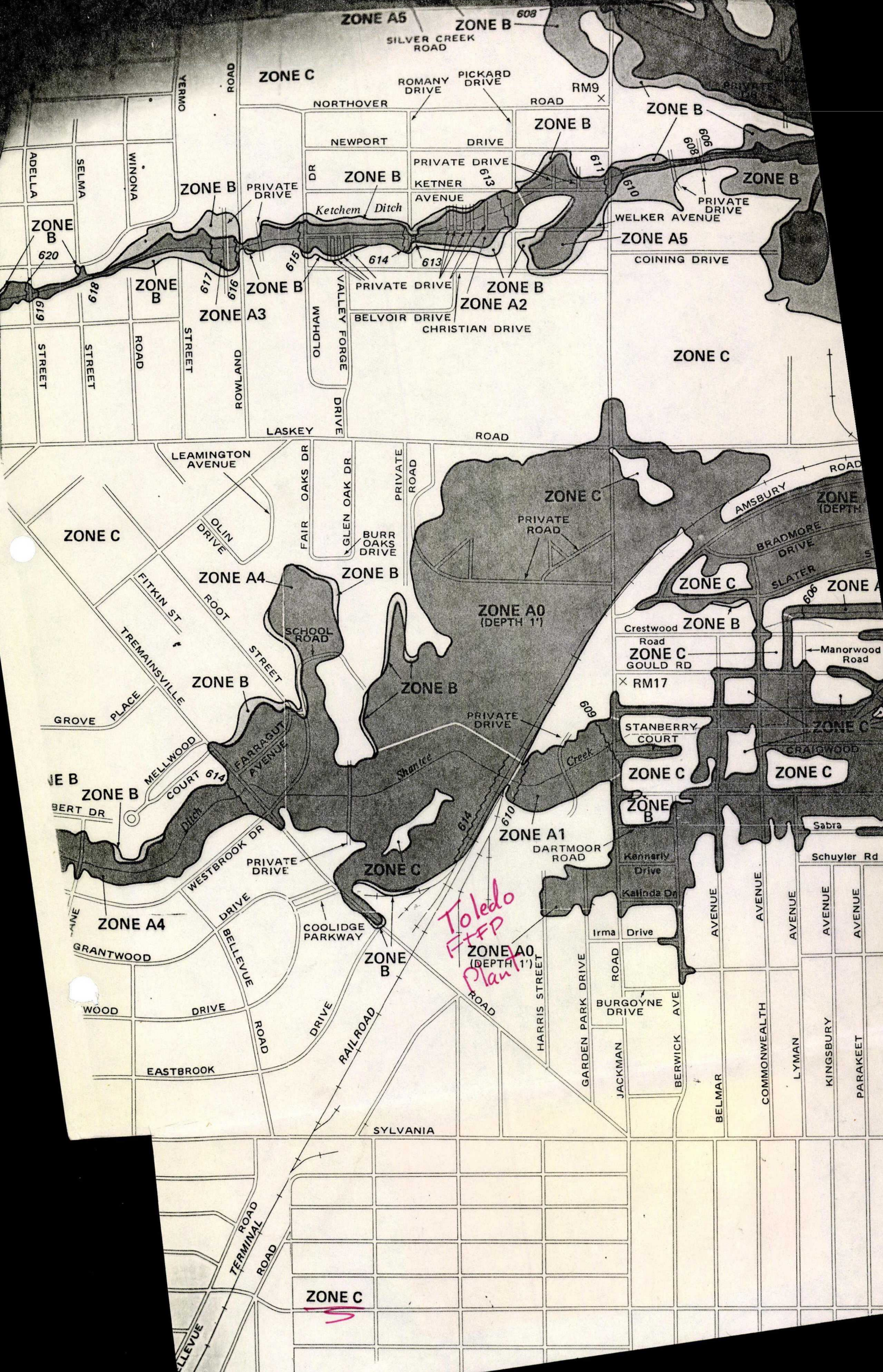
- | | |
|-----------------------------|---------------------------|
| POST INDICATOR VALVE | HYDRANT IN STD HOSE HOUSE |
| ALARM GONG W/ HOOD | WATER CANNON |
| ALARM BOX | FIRE DEPT. CONNECTION |
| FIRE ALARM CENTRAL STATION | CHECK VALVE |
| SHUT OFF VALVE | SECTIONAL SHUT OFF VALVE |
| RISER - AUTOMATIC | HOSE HOUSE |
| UNDERGROUND FIRE LINE | |
| SUCTION LINE | |
| HYDRANT W/ HOSE BOX | |
| HYDRANT W/ 2 VALVED OUTLETS | |

OHD005041843

**E. I. DUPONT DE NEMOURS & CO.
TOLEDO PLANT TOLEDO, OHIO**

FIRE MAP

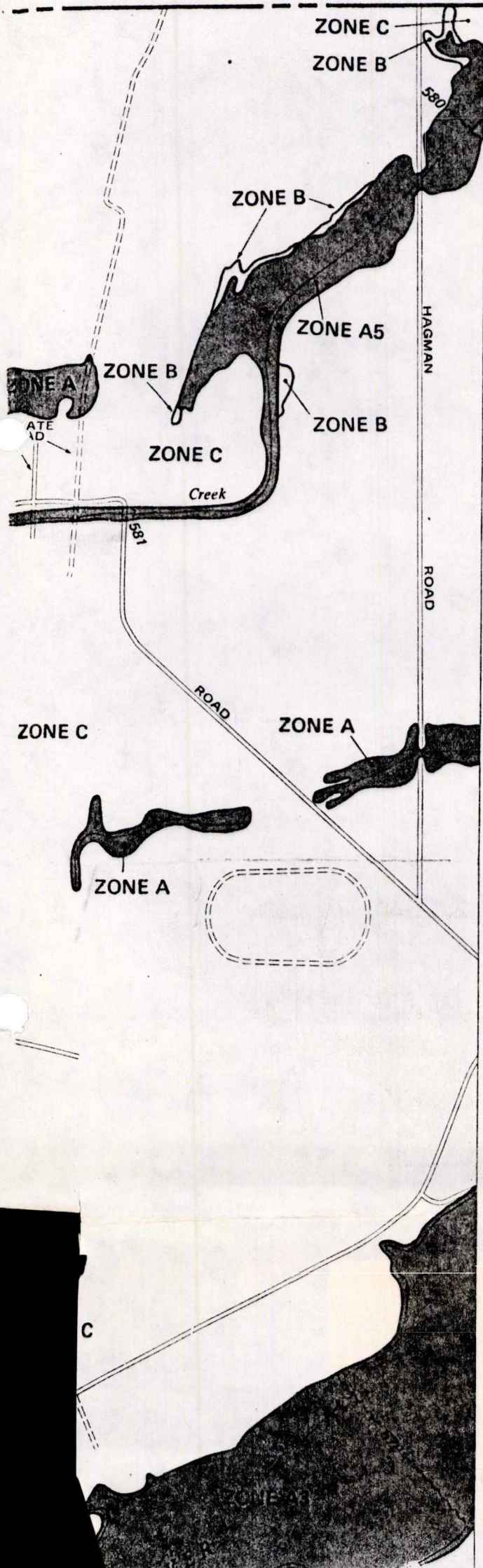
Drawn By M.R.P.L.	Date
Checked By	Bldg. No.
Approved	
Scale 1" = 50'	T-806



RCRA PART B APPLICATION
E. I. DU PONT DE NEMOURS & COMPANY
F&FP DEPARTMENT PLANT--TOLEDO, OH
EPA ID NO. OHD005041843

PG
81
62

6/10/4
L150
10/10/90



KEY TO MAP

- 500-Year Flood Boundary —————
- 100-Year Flood Boundary —————
- Zone Designations* With Date of Identification e.g., 12/2/74
- 100-Year Flood Boundary —————
- 500-Year Flood Boundary —————
- Base Flood Elevation Line With Elevation In Feet** 513
- Base Flood Elevation in Feet Where Uniform Within Zone** (EL 987)
- Elevation Reference Mark RM7_x
- River Mile • M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
OCTOBER 8, 1976

FLOOD HAZARD BOUNDARY MAP REVISIONS:

FLOOD INSURANCE RATE MAP EFFECTIVE:
JUNE 4, 1980

FLOOD INSURANCE RATE MAP REVISIONS:

EPA ID NO. OHD005041843

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62

~~64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889~~

B-4. Traffic

The traffic associated with the activity at the HWM facility on this site is a very small part of the total vehicular traffic in and around this urban plant. Traffic types involved in three waste categories are:

- Off-site Spent Solvent from other F&FP sites--presently estimated to be:
 - a. Chicago: 154 drums or 2 trucks per year.
 - b. Flint: 70 tank wagons (5,000 gallons each) per year.
- On-site Spent Solvent is completely in pipes and tanks--no traffic.
- On-site Drumed HW (moved by plant fork trucks from buildings where generated to the storage pad prior to shipment off-site for contract disposal: About 800 drums and 25 portable tanks or 2,025 fork truck trips per year.

In addition, HW is shipped off-site in drums (100 truckloads per year) and 12 tank wagons (2,500 gallons each) of waste pumped from drums for bulk transport.

Reference should be made to the 1:24,000 map in the revised Part A application (as well as the 1" = 200' map in Section B-1) for truck routing. Although not always true, most out-of-town traffic would come to the plant from Interstate 475

-13-

via Jackman to Tremainsville or Phillips to Sylvania to Tremainsville. These are busy city streets with normal traffic light controls by the city. There is room for 4 tractor-trailer units inside the plant gate off Tremainsville Road (truck scale is also there).

The entire plant road surface is paved with concrete or black top to support the full trucks (75,000 pounds) that regularly deliver raw materials and take our finished product and waste shipments. The specifications used for contracting paving work are:

- Concrete: 6 inches of 3,000 psi (minimum compressive strength at 28 days) concrete; specifications (such as 2" aggregate, 445 lbs. of portland cement/cubic yard, etc.) are given in Du Pont Engineering Standard SB-U-Concrete; Reinforcing is 6 inch by 6 inch welded wire fabric (ASTM Standards A185 or A497). Wire conforms to ASTM Standard A82.
- Black-Top: 2 inches (minimum) of hot-mixed, hot-laid asphaltic concrete, consisting of 1-1/4 inch of binder course and 3/4 inch of wearing course over six inches of stone. Specific compositions, grades, compaction specifications, ASTM Standards applicable, etc. are given in Du Pont Engineering Standards (SC-R-Roads).

-14-

No internal traffic control is exercised except by the warehouse supervisor who is notified by a guard of every incoming shipment. Control consists of examining papers and directing truckers to appropriate loading/unloading locations.

With all permanent roadway surfaces and relatively little HW truck volume (about 3/4 of a truck of HW per day including receipts and shipments--all known ahead of time and scheduled arrivals), HW traffic considerations for this storage facility are minimal.

B-3. Location InformationB-3a. Seismic Standard

Section 264.18(a) is not applicable to this facility. No Ohio counties are listed in Appendix VI of Part 264--see 46 FR 2873 (January 12, 1981).

B-3b. 100-Year Flood Plains

Section 264.18(b) is not applicable to this HW storage facility. Information was received from Mr. John Marlais, Division of Inspection, City of Toledo (see documentation and maps attached). This clearly shows the HWM locations on the plant site to be in Zone C or above the 500-year flood plain. Since all the waste is either in non-leaking DOT containers at least 5" off the paved surface on pallets or in tanks the bottoms of which are at least 4-1/2 feet above the ground level, no environmental impact is expected from the minimal possible flooding of Zone C.

C. WASTE CHARACTERISTICSC-1. Chemical and Physical Analysis

RCRA regulations require each HW generator (Section 262.11) to make a determination of the applicability of those regulations to each waste stream in this manner:

1. Determine if it is a solid waste as defined in Sections 261.2.
2. If it is a solid waste, then determine if it is hazardous waste by this procedure in Section 262.11:
 - a. Determine if the waste is excluded under Sections 261.4 and 261.5 or exempted under Section 261.6(a).
 - b. If not, he must determine if it is a listed waste in Subpart D of 40 CFR 261.
 - c. If not, he must finally determine if the waste is identified as a hazardous waste under Subpart C of 40 CFR 261 by either (emphasis added):
 - (1) Testing for the four characteristics of Subpart C, or
 - (2) "Applying knowledge of the hazard characteristics in light of the materials or the processes used."

As all wastes for this storage facility are generated either on the site by well known processes and formulas or by almost identical processes on other sites under the same Department management and environmental protection program, our technical staff knows enough about these waste streams to

-16-

accurately determine their hazard characteristic. In fact, our knowledge of the components and their flash points, etc. has lead us to identify almost all of the solvent-based liquid paint waste streams to be ignitable and, therefore, hazardous wastes.

Once the waste is identified as hazardous by either listing or determination from composition, no further testing is required by RCRA. Therefore, there are no chemical analyses included in this permit application. Managing the waste as ignitable--as we do all our raw materials, intermediates and finished products--can be accomplished successfully without further detailed knowledge that unnecessary and expensive testing would provide on a given sample. However, remembering that the wastes come from a variable mix of thousands of individual formulas, no sampling frequency (short of 100 percent) would be satisfactory to analyse for precise content.

The owner or operator of a storage facility must have a detailed chemical and physical analysis of the waste streams he stores. "At a minimum, this analysis must contain all the information which must be known to (treat,) store (,or dispose of) the waste in accordance with the requirements of this Part..."--from Section 264.13(a)(1). "The analysis may include data developed under Part 261 of this chapter,..."--from Section 264.13(a)(2). The detailed characterization by technical personnel of wastes from known processes using known formulation at generator controlled plants provides this information.

-17-

A complete set of current Waste Characterization Forms (WCF's) for the site (and the two waste streams from off-site F&FP plants) is attached. Some of these waste streams do not fit any RCRA criteria but are deemed hazardous enough from an industrial hygiene basis or from other regulation (e.g., asbestos) to warrant sending them to secure chemical landfills. Some other of these WCF's are part of a disposal contract just in case they are suddenly generated (i.e., "WOT-8, unreacted/partial reacted monomers," which represents a resin batch which did not properly react).

mix are cause for review of the affected WCF's. The WCF's are reviewed at least once a year.

C-2e. Additional Requirements for Wastes Generated Offsite

The spent solvent waste streams from the other F&FP plants (discussed in B-1) must be characterized by the same procedure as describe in C-1 and C-2a to d. Current copies of these WCF's are part of the Toledo plant Waste Analysis Plan (see C-1).

In addition, drums of these spent solvents must have a special waste identifying label applied with the Chicago WCF number on it (WOC-6-DS). Tank wagon shipments will have the Flint WCF number (WOF-15-LM2) plainly indicated on the shipping papers.

Upon arrival at Toledo, drums are checked for the WCF label and one drum in twelve is sampled and observed for physical characteristics that match those on the WCF. Included would be:

- Characteristic solvent odor
- Lack of pigmentation (for fuel recovery solvents)
- Lack of water contamination
- Low viscosity (pumpability)

Likewise, a sample would be taken from each tank wagon for the same examination.

C. WASTE CHARACTERISTICSC-1. CHEMICAL AND PHYSICAL ANALYSIS

RCRA REGULATIONS REQUIRE EACH HW GENERATOR (SECTION 262.11) TO MAKE A DETERMINATION OF THE APPLICABILITY OF THOSE REGULATIONS TO EACH WASTE STREAM IN THIS MANNER:

1. DETERMINE IF IT IS A SOLID WASTE AS DEFINED IN SECTIONS 261.2.
2. IF IT IS A SOLID WASTE, THEN DETERMINE IF IT IS HAZARDOUS WASTE BY THIS PROCEDURE IN SECTION 262.11:
 - A. DETERMINE IF THE WASTE IS EXCLUDED UNDER SECTIONS 261.4 AND 261.5 OR EXEMPTED UNDER SECTION 261.6(A).
 - B. IF NOT, HE MUST DETERMINE IF IT IS A LISTED WASTE IN SUBPART D OF 40 CFR 261.
 - C. IF NOT, HE MUST FINALLY DETERMINE IF THE WASTE IS IDENTIFIED AS A HAZARDOUS WASTE UNDER SUBPART C OF 40 CFR 261 BY EITHER (EMPHASIS ADDED):
 - (1) TESTING FOR THE FOUR CHARACTERISTICS OF SUBPART C, OR
 - (2) "APPLYING KNOWLEDGE OF THE HAZARD CHARACTERISTICS IN LIGHT OF THE MATERIALS OR THE PROCESSES USED."

AS ALL WASTES FOR THIS STORAGE FACILITY ARE GENERATED EITHER ON THE SITE BY WELL KNOWN PROCESSES AND FORMULAS OR BY ALMOST IDENTICAL PROCESSES ON OTHER SITES UNDER THE SAME DEPARTMENT MANAGEMENT AND ENVIRONMENTAL PROTECTION PROGRAM, OUR TECHNICAL STAFF KNOWS ENOUGH ABOUT THESE WASTE STREAMS TO

US TO IDENTIFY ALMOST ALL OF THE SOLVENT-BASED LIQUID PAINT WASTE STREAMS TO BE IGNITABLE AND, THEREFORE, HAZARDOUS WASTES.

ONCE THE WASTE IS IDENTIFIED AS HAZARDOUS BY EITHER LISTING OR DETERMINATION FROM COMPOSITION, NO FURTHER TESTING IS REQUIRED BY RCRA. THEREFORE, THERE ARE NO CHEMICAL ANALYSES INCLUDED IN THIS PERMIT APPLICATION. MANAGING THE WASTE AS IGNITABLE--AS WE DO ALL OUR RAW MATERIALS, INTERMEDIATES AND FINISHED PRODUCTS--CAN BE ACCOMPLISHED SUCCESSFULLY WITHOUT FURTHER DETAILED KNOWLEDGE THAT UNNECESSARY AND EXPENSIVE TESTING WOULD PROVIDE ON A GIVEN SAMPLE. HOWEVER, REMEMBERING THAT THE WASTES COME FROM A VARIABLE MIX OF THOUSANDS OF INDIVIDUAL FORMULAS, NO SAMPLING FREQUENCY (SHORT OF 100 PERCENT) WOULD BE SATISFACTORY TO ANALYSE FOR PRECISE CONTENT.

THE OWNER OR OPERATOR OF A STORAGE FACILITY MUST HAVE A DETAILED CHEMICAL AND PHYSICAL ANALYSIS OF THE WASTE STREAMS HE STORES. "AT A MINIMUM, THIS ANALYSIS MUST CONTAIN ALL THE INFORMATION WHICH MUST BE KNOWN TO (TREAT,) STORE (,OR DISPOSE OF) THE WASTE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS PART..."--FROM SECTION 264.13(A)(1). "THE ANALYSIS MAY INCLUDE DATA DEVELOPED UNDER PART 261 OF THIS CHAPTER,..."--FROM SECTION 264.13(A)(2). THE DETAILED CHARACTERIZATION BY TECHNICAL PERSONNEL OF WASTES FROM KNOWN PROCESSES USING KNOWN FORMULATION AT GENERATOR CONTROLLED PLANTS PROVIDES THIS INFORMATION.

A COMPLETE SET OF CURRENT WASTE CHARACTERIZATION FORMS (WCF'S) FOR THE SITE (AND THE TWO WASTE STREAMS FROM OFF-SITE F&P PLANTS) IS ATTACHED. SOME OF THESE WASTE STREAMS DO NOT FIT ANY RCRA CRITERIA BUT ARE DEEMED HAZARDOUS ENOUGH FROM AN INDUSTRIAL

HYGIENE BASIS OR FROM OTHER REGULATION (E.G., ASBESTOS) TO WARRANT SENDING THEM TO SECURE CHEMICAL LANDFILLS. SOME OTHER OF THESE WCFOS ARE PART OF A DISPOSAL CONTRACT JUST IN CASE THEY ARE SUDDENLY GENERATED (I.E., "WOT-8, UNREACTED/PARTIAL REACTED MONOMERS," WHICH REPRESENTS A RESIN BATCH WHICH DID NOT PROPERLY REACT).

NO CORROSIVE WASTE EXISTS ON THE PLANT PRESENTLY OR IS PLANNED IN THE FUTURE. IF A CORROSIVE WASTE IS GENERATED, ITS PH WOULD BE APPROXIMATELY 12.5. REACTIVE WASTES ARE INHIBITED WITH A SPECIAL SOLUTION TO PREVENT AN EXOTHERMIC POLYMERIZATION REACTION BEFORE THE MATERIAL IS INCINERATED.

C-2. WASTE ANALYSIS PLAN

THE FOLLOWING PLAN FOR WASTES GENERATED ON-SITE EMBODIES THE DEVELOPMENT OF THE WASTE CHARACTERISTIC FORMS (SEE SECTION C-1) AND DETERMINING, BY KNOWLEDGE OF THE INGREDIENTS AND PROCESSES, WHETHER A PARTICULAR WASTE STREAM IS A RCRA WASTE OR NOT. THE STEPS OUTLINED IN C-2 A THROUGH D BELOW ADDRESS THE SECTION 264.13(B) REQUIREMENTS. C-2E ADDRESSES THE SPENT SOLVENT BROUGHT FROM OTHER F&FP PLANTS.

C-2A. PARAMETERS AND RATIONALE

THE PRIMARY HAZARD CHARACTERISTIC OF SOLVENT-BASED PAINT PRODUCTS IS IGNITABILITY. THERE ARE NO ACUTELY TOXIC, IMMEDIATE EFFECTS FROM CONTACT WITH PAINT WASTE. THERE CAN BE SOME EFFECT FROM INHALING TOO HIGH A CONCENTRATION OF SOLVENT VAPORS (LACK OF ADEQUATE VENTILATION) BUT THIS IS NOT AN EXPECTED CONDITION IN CLOSED, WELL-VENTILATED OR OUT-OF-DOORS STORAGE FACILITIES. IN

TERMS OF LONGER TERM IMPACT OF PAINT WASTE ON THE ENVIRONMENT, HEAVY METAL CONTENT--PRIMARILY LEAD AND CHROMIUM (+6)--AND LIQUID ORGANICS MUST BE CONSIDERED, NOT FOR STORAGE BUT FOR CHOOSING A DISPOSAL METHOD. THUS, THE PRIMARY PARAMETERS TO CONSIDER ARE:

- 0 FLASH POINT
- 0 LEAD/CHROMATE CONTENT
- 0 PHYSICAL STATE, I.E., LIQUID OR NOT OTHER ITEMS TO BE CONSIDERED ARE INDICATED ON THE WASTE CHARACTERIZATION FORM (WCF) AS DESCRIBED IN SECTION C-1.

C-23. TEST METHODS

AS OUTLINED IN C-1, ALL OUR WASTES ARE SELF-GENERATED AND CHARACTERIZED FROM KNOWN PROCESSES AND FORMULATIONS. MOST ARE A COMPOSITE OF TENS OR HUNDREDS OF FINISHED PRODUCT CODES--BUT EXHIBITING A COMMON HAZARD DENOMINATOR, IGNITABILITY. THE CHARACTERIZING PROCEDURE IS AS FOLLOWS:

1. A WASTE STREAM IS DEFINED BY THE SOLID WASTE COORDINATOR (SEE C-3, SAMPLING METHOD).
2. A CHEMIST OR ENGINEER FAMILIAR WITH THE GENERATING PROCESS DETERMINES THE PRODUCT(S) THAT WOULD BE PRESENT, AND USING HIS/HER KNOWLEDGE AND THE FORMULA FILE, COMPUTES THE AVERAGE CONCENTRATION RANGE FOR MAJOR INGREDIENTS AND INDICATES TRACE ITEMS.
3. THEN OTHER DATA ON PHYSICAL STATE, HAZARD DESIGNATIONS, SAFETY CONSIDERATIONS, ETC. ARE INDICATED.
4. ADDITIONAL DESCRIPTIONS AND/OR HAZARD WARNING

INFORMATION MAY BE APPENDED.

5. THE SITE DOT COORDINATOR IS THEN CONSULTED TO SELECT PROPER CONTAINERS AND DOT SHIPPING NAME, CLASS, NUMBER, ETC.
6. A REVIEW BY THE SOLID WASTE COORDINATOR COMPLETES THE PROCESS.

IT SHOULD BE NOTED THAT THIS REVIEW CAN RESULT IN A WASTE BEING FOUND NOT A RCRA HAZARD WASTE. IF THERE IS ANY DOUBT, FLASH POINTS MIGHT BE RUN USING THE SETAFLASH CLOSED CUP TESTER AND ASTM D-3278-78 STANDARD IN THE PLANT LABORATORY. IF NECESSARY, THE EXTRACTION PROCEDURE TOXICITY TEST, AS DETAILED IN 40 CFR 261.24 AT 45 ER 33122 ET SEQ (MAY 19, 1980), IS RUN BY THE F&EP DEPARTMENT'S PROCESS ENGINEERING GROUP AT THE MARSHALL LABORATORY, PHILADELPHIA.

SHOULD A TOTALLY UNKNOWN WASTE BE FOUND ON THE SITE (BY OPERATOR ERROR, MISLABELING, ETC.), THE PLANT LABORATORY HAS GAS CHROMATOGRAPHY CAPABILITY TO IDENTIFY SOLVENTS. AS MENTIONED IN C-1, THIS CHARACTERIZING PROCESS IS APPLIED TO POSSIBLE WASTE STREAMS TO BE PREPARED FOR UNEXPECTED, ONE-TIME WASTE STREAMS THAT REQUIRE PROMPT INCINERATION. THE WCF IS MADE PART OF A CONTRACT FOR THIS EVENTUALITY WITH A RCRA INCINERATOR OPERATOR.

C-2C. SAMPLING METHODS

DETERMINATION OF UNIQUE WASTE STREAMS IN THE PLANT IS DONE BY THE SOLID WASTE COORDINATOR AND AREA SUPERVISORS. WHENEVER THE GENERATING AREA HAS A NEW WASTE STREAM, IT IS REVIEWED FOR FIT TO EXISTING WCF'S; IF NOT, A NEW WCF IS PREPARED (SEE C-2B). AS DISCUSSED ABOVE, THERE IS NORMALLY NO SAMPLING

OHD 005041843
NEEDED TO EFFECTIVELY CHARACTERIZE THE WASTE STREAM.

IF A DRUM OF WASTE IS UNKNOWN, IT WOULD BE THOROUGHLY AGITATED (INTERNAL AGITATION BLADE OR DRUM TUMBLER) FOR 4-8 HOURS. A PINT SAMPLE WOULD THEN BE POURED FROM THE DRUM FOR LABORATORY ANALYSIS.

C-2D. FREQUENCY OF ANALYSES

WCF'S ARE PREPARED WHENEVER A NEW WASTE STREAM IS ENCOUNTERED (OR ANTICIPATED). SINCE MOST OF THESE ARE PART OF AN OFF-SITE WASTE DISPOSAL CONTRACT, THEY ARE REVIEWED EACH TIME A CONTRACT IS RENEWED. SIGNIFICANT CHANGES IN PROCESS OR PRODUCT MIX ARE CAUSE FOR REVIEW OF THE AFFECTED WCF'S. THE WCF'S ARE REVIEWED AT LEAST ONCE A YEAR.

D. PROCESS INFORMATION

THE STORAGE FACILITIES AT THIS SITE INVOLVE ONLY CONTAINERS AND TANKS. NO WASTE PILES, IMPOUNDMENTS, INCINERATORS, LANDFILLS OR OTHER TREATMENT/DISPOSAL OPERATIONS ARE PRESENT. THUS, THIS SECTION WILL CONSIST ONLY OF D-1 AND D-2.

D-1. CONTAINERS

D-1A. CONTAINERS WITH FREE LIQUIDS

ONLY WCF'S NOS. WOT-1, 3, 6, & 15 ARE CLASSIFIED A HAVING NO FREE LIQUIDS. ALL OTHERS ARE IN THIS CATEGORY, INCLUDING THOSE SPENT SOLVENTS NORMALLY KEPT IN TANKS BUT OCCASIONALLY TEMPORARILY KEPT IN DRUMS (PRIOR TO PUMPING INTO THE TANK SYSTEM).

D-1A(1). DESCRIPTION OF CONTAINERS

THE CONTAINERS USED FOR THE HW STORAGE FACILITY@S PRIMARY CONTAINMENT ARE ALL DOT-APPROVED SHIPPING CONTAINERS FOR

TOLEDO F & FP WASTE CHARACTERIZATIONS

<u>WOT- No.</u>	<u>NAME OF WASTE</u>	<u>DATE</u>
1	Contaminated Bags & Plastic	1/4/82
2	Paint Contaminated Material	1/4/82
2A	Popcorn Polymer	1/4/82
3	Waste Pigment Dust, mixed	1/4/82
5	Empty drums contaminated with Dowtherm® (Heating Oil)	1/4/82
5A	Drum Contaminated with Dowtherm® and Water	1/4/82
6	Empty Acrylamide Bags	1/4/82
7	Empty Acrylonitrile Drums	4/26/82
8	Unreacted/Partially reacted monomers	6/1/82
9	Waste Resins	1/4/82
10	Waste Paraformaldehyde/Formaldehyde Mixture	1/4/82
11	Off-Standard Urea Formaldehyde Resin	1/4/82
12	Solvent Recovery Sludge	1/4/82
13	Waste Paint Liquid	1/4/82
15	Asbestos	1/4/82
16	Waste Wash Solvent	1/4/82
16A	Molten Phthalic-Anhydride (Chip in drums)	1/4/82

WASTE CHARACTERIZATION

DATE 1-4-82

DU PONT CODE WOT-1

CONTRACTOR'S CODE

1565 B

EPA CODES

OTHER CODES

I. LOCATION TOLEDO OHIO F&F
EPA I.D.# OH-005041843

II. NAME OF WASTE CONTAMINATED BAGS & PLASTIC

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+ACGIH ³	+OSHA
1. (LEAD, CHROMATE & ZINC CHROMATE PIGMENT DUST)		1.0	0.4	50VG/M ³	LEAD CHROMA ¹
2.				100VG/M ³	ZINC CHROMA ¹
3. PAPER-PLASTIC-CARDBOARD		99.6	98.0		
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN Ag As Ba
Cd Cr Cu Hg Ni Pb 0.1% Se
Zn S* Cl* N* P* Fl* I*
OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
OTHER _____
SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? YES
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? - POURED? -
LIQUID/SOLID PHASES: 1 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)
BULK _____ (MC _____)
55-GAL. STEEL DRUMS (DOT _____)
30-GAL. FIBER DRUMS (DOT _____)
5-GAL. PAILS
OTHER _____
APPROX. WT. PER CONTAINER 150 LBS.

VI. PROPERTIES (CIRCLE)
COMBUSTIBLE (FP - °F) IGNITABLE (FP - °F)
(CLOSED CUP) (CLOSED CUP)
CORROSIVE OSHA CARCINOGEN
pH _____ ODOR (YES/NO) NO
Btu/LB. _____ COLOR _____
REACTIVE _____
TOXIC AVOID INHALING DUST
OTHER _____

VII. D.O.T. SHIPPING NAME PAINT N.O.I. DRY (WASTE)
D.O.T. HAZARD CLASSIFICATION NOT REGULATED
U.N. NO. _____ N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)
THIS REQUEST _____
ANNUAL 200 DRS/YR

IX. REMARKS TOXICITY INFORMATION ON LEAD
AND ZINC CHROMATE ATTACHED

*Organically bound only

Rev. 2/81

**EXPERIMENTAL STATION
SAFETY PROCEDURE**

PROCEDURE NO. 249-1
ISSUED Aug. 1977
REVISED June 1, 1979

PROCEDURES FOR WORKING WITH CLASSIFIED CARCINOGENS

I. INTRODUCTION

The growing list of chemicals that are being implicated as carcinogens adds to our concern in maintaining a safe and healthy working environment at the Experimental Station. The situation here is especially complicated by the wide variety of chemicals used in the diverse research and development programs. For many years it has been our policy to treat all chemicals as potentially harmful, especially new and unfamiliar materials, and to work with them under conditions of minimum exposure. Specific precautions must now be taken with those chemicals that have been classified as carcinogens.

II. BASIS FOR PROCEDURES

The Experimental Station carcinogen procedures were evolved by an interdepartmental committee in consultation with Haskell Laboratory, the Safety and Fire Protection Section, and the Medical Section. The objective has been to provide uniform, safe-use procedures for the Site for compounds designated as potential carcinogens. This committee has assumed responsibility for periodically reviewing and revising the procedures as may be indicated by new test data, carcinogen reclassifications, new government regulations, etc.

Regulations apply to compounds classified as potential carcinogens by three organizations: the Occupational Safety and Health Administration (OSHA) of the U. S. Department of Labor, The American Conference of Governmental Industrial Hygienists (ACGIH), and the Du Pont Company. All OSHA carcinogens must be used in accordance with standards developed by OSHA and published in the Federal Register (see Section V). Carcinogens classified by ACGIH and by Du Pont are divided according to risk into two groups, Strong and Weak Carcinogens, and must be used in accordance with Procedures A and B (see Sections V, VI & VII).

III. IMPLEMENTATION

These procedures comprise the minimum standards to be observed in working with carcinogens at the Experimental Station and should afford effective protection from both acute and chronic exposure hazards under nearly all local use conditions. Individual laboratories should supplement these basic regulations to satisfy their own particular needs or to meet any additional requirements imposed by their departments.

The exercise of good judgment by responsible technical people in implementing these procedures should be emphasized. No set of regulations could be written to cover all of the potential exposure situations that exist at the Experimental Station. In deciding exactly how to work with a classified carcinogen in a particular situation, research people and supporting groups must take into account the quantities and concentrations of materials involved, the physical properties and chemical reactivities, the numbers of persons who could be exposed, and all other hazards in addition to carcinogenicity. As in all chemical experimentation, the work should be carefully preplanned from a safety standpoint, and means for coping with emergencies must be established and made available in advance.

Implementation of these procedures, including education of the workers, is a line responsibility resting ultimately on the Laboratory Heads. The unspecified details of implementation must also be set and enforced by line management. Examples include authorization of work, the extent and frequency of monitoring, testing of ventilating systems, nature of record-keeping, and medical surveillance.

IV. DEFINITIONS

- | | |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Carcinogenic | — Causing malignant tumors (cancer) (OSHA — NIOSH — FDA consider any tumor either carcinogenic or possibly leading to a cancer). |
| Oncogenic | — Causing tumors. |
| Tumorigenic | — Causing tumors. |
| Mutagenic | — Causing a change in the gene structure which results in altered reproduction. |

TLV[®]-STEL

- **Threshold Limit Value - Short Term Exposure Limit** established by ACGIH - The maximal concentration to which workers can be exposed for a period up to 15 minutes continuously. See ACGIH TLV[®] booklet for complete details and restrictions.

TLV[®]-C

- **Threshold Limit Value - Ceiling.** The concentration that should not be exceeded even instantaneously.

VII. PROCEDURE B FOR WEAK CARCINOGENS

The following are general procedures to be used for compounds which are suspected of being Weak Carcinogens and are referred to as B compounds. Refer to the specific chemical monographs for exceptions to these procedures.

USE REQUIREMENTS AND RECORD-KEEPING

Researchers planning to use a B compound must review the chemical monograph for the B compound and ascertain that safe procedures will be employed.

Records of the B compound, amount used, and workers must be recorded in the workers' Experimental Station Laboratory notebooks when (1) operations outside a hood are used, e.g., a semiworks operation, or (2) workers use substantial quantities of a B compound in the laboratory (> 1 gallon/day).

CONTAINERS AND LABELS

Containers of B compounds must be clearly labelled "*May Cause Cancer Based on Tests with Laboratory Animals - Read Procedure 224 of the Safety Manual Before Using*" (ES-3623). If the container is breakable, it must be contained in an unbreakable secondary container (e.g., metal or inert plastic) when transported.

USE AREA

In a laboratory, experiments and transfers with a B compound or mixtures and solutions containing > 1% B compound must be done in a hood which meets the Experimental Station safety standards, e.g., average frontal air velocity of 60 ft/min. Other work areas, e.g., a glove box, may be used if done in a safe manner to avoid worker exposure to the B compound.

For operations outside a hood (e.g., semiworks operations), consultation with the Experimental Station Safety Section is required. More elaborate procedures such as monitoring, protective equipment and record-keeping may be required.

HANDLING PROCEDURES

Good laboratory hygiene must be exercised to prevent possible ingestion or inhalation. Eating, smoking, drinking, chewing of gum or tobacco, application of cosmetics, taking of medicine, or storage of food in or near the area where B compounds are being used is not permitted. Oral pipetting is prohibited, and mechanical pipetting aids must be used. Skin contact must be avoided, e.g., by using proper gloves when transferring or handling B compounds.

MEDICAL SURVEILLANCE

When work with a B compound on a large scale outside the hood is planned, technical supervision must request the Medical Section to examine the medical records of the researcher and to supply Medical Section approval in writing. Medical surveillance and biological monitoring if analytical methods are known may be required upon consultation with the Medical Section.

ACCIDENTS OR SPILLS

The technical researcher must be well prepared for possible accidents or spills. In case a B compound gets on the skin, wash or use a safety shower promptly. If there is a major spill outside the hood, evacuate the room or appropriate area, and take measures to prevent exposures. Clean up the spill only when wearing an apron, gloves, and rubbers of reduced permeability and an air-supplied full-face respirator. Discard and incinerate clothing and shoes should they be contaminated with a B compound. Technical supervision, Medical, and the Safety Office must be notified of major spills or incidents involving skin contact, ingestion, or inhalation. Minor spills or incidents which are cleaned up without exposure need not be reported.

EXPERIMENTAL STATION
SAFETY PROCEDURE

ISSUED Aug. 1977
REVISED June 1, 1979

PROCEDURES FOR CLASSIFIED CARCINOGENS

CHEMICAL MONOGRAPH - LEAD CHROMATE

CARCINOGEN CLASSIFICATION:

ACGIH (A2)
Du Pont Suspect Carcinogen
Weak Carcinogen B

SYNONYMS:

Chrome Yellow
Chologne Yellow
King's Yellow
Leipzig Yellow
Paris Yellow

STRUCTURE AND PHYSICAL FORM:

CrO_4Pb	Molecular Weight.	323.2
	Physical Form.	Yellow or Orange-Yellow Powder
	Solubility.	Solutions of Fixed Alkali Hydroxides; Dilute HNO_3

TOXICITY AND CARCINOGENICITY:

The OSHA PEL is $100 \mu\text{g}/\text{m}^3$ as CrO_3 . The TLV[®] is $50 \mu\text{g}/\text{m}^3$ as Cr^{+6} .

Lead chromate is practically nontoxic on single exposure by the oral and inhalation routes (oral ALD > 5000 mg/kg in rats; inhalation of 34 mg/1/6 hr, no deaths). Repeated or prolonged overexposure to the dusts can cause lead poisoning.

A recent epidemiological study has shown that prolonged excessive inhalation of lead chromate pigment dust may produce lung cancer in humans. For many years a high rate of lung cancer deaths has been known to be associated with the chromate producing industry. The exact causative agent remains obscure. However, lead chromate was not present in the chromate producing plants in which this excess was noted.

HANDLING PROCEDURE:

Use Procedure B.

PROCEDURES FOR CLASSIFIED CARCINOGENS

CHEMICAL MONOGRAPH - ZINC CHROMATE

CARCINOGEN CLASSIFICATION:

ACGIH (A2)

Du Pont Suspect Carcinogen

Weak Carcinogen (B)

STRUCTURE AND PHYSICAL PROPERTIES:

ZnCrO_4

Molecular Weight. 181.4

Physical Form. crystalline

TOXICITY AND CARCINOGENICITY:

The TLV[®] for zinc chromate is 0.05 mg/m³ as Cr⁺⁶.

Zinc chromate is rated highly toxic by ingestion and inhalation by one source. It is a strong skin irritant.

Oral studies in rats on zinc potassium chromate ($4\text{ZnO} \cdot \text{K}_2\text{O} - 4\text{Cr}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$) have shown that material is moderately toxic on single exposure (ALD = 200 mg/kg) and low in cumulative toxicity (40 mg/kg/day x 10 days, no deaths or toxic signs).

There is presently moderate but inconclusive evidence that zinc chromate is a human and experimental carcinogen.

It is well known that exposure to chromates in the chromate-producing industry has caused a high incidence of respiratory cancers. Some workers have speculated that zinc chromate pigment dust was the principal causative agent. More recently, workers handling zinc chromate at a Norwegian pigment plant have been shown to have a high lung cancer rate.

Zinc chromate has caused tumors when implanted or subcutaneously injected into animals.

HANDLING PROCEDURES:

Use Procedure B.

WASTE CHARACTERIZATION

DATE 1-4-82

DU PONT CODE WOT-2

CONTRACTOR'S CODE

1565 A

EPA CODES D001

OTHER CODES

I. LOCATION TOLEDO OHIO F&F

EPA I.D.# OHD-005041843

II. NAME OF WASTE PAINT CONTAMINATED MATERIAL

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	OSHA	NIOSH
1. PAPER (CUPS, STRAINERS, WET WIPERS)		97	95		
2. FILTER, GLOVES, MOPS, BRUSHES					
3. ONE-TIME SUITS, KRAFT PAPER PLASTIC SHEETS					
4. FILTER CAKE, ABSORBANT MATERIAL					
5. PAINT-SEE ATTACHMENT		5	3		

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM)

CN	Ag	As	Ba			
Cd	Cr	Cu	Hg	Ni	Pb	Se
Zn	S*	Cl*	N*	P*	Fl*	I*

OTHER

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO

LIQUIDS : MULTIPLE PHASES? - VOL% OF EACH PHASE

LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? NO

LIQUID/SOLID PHASES: 1 FREE FLOWING LIQUID LAYER 1 (VOLUME %)

GASES : PRESSURE OF CONTAINER PSIG

V. CONTAINMENT (CIRCLE)

BULK (MC)

55-GAL. STEEL DRUMS (DOT 17H 17E)

30-GAL. FIBER DRUMS (DOT)

5-GAL. PAILS

OTHER

APPROX. WT. PER CONTAINER 400 LBS.

VI. PROPERTIES (CIRCLE) 73DEGREES -100DEGREES

COMBUSTIBLE (FP °F) IGNITABLE (FP °F)

(CLOSED CUP) (CLOSED CUP)

CORROSIVE OSHA CARCINOGEN

pH ODOR (YES/NO) YES

Btu/LB. COLOR

REACTIVE

TOXIC

OTHER SEE ATTACHMENT

VII. D.O.T. SHIPPING NAME FLAMMABLE SOLID N.O.S.

D.O.T. HAZARD CLASSIFICATION FLAMMABLE SOLID

U.N. NO. N.A. NO. 1325

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL 625 DRS/YR

IX. REMARKS

*Organically bound only

Rev. 2/81

DESCRIPTION OF PAINT COMPONENTS

POLYMER SOLIDS

Polymer solids comprise 25-35% of the waste. These solids include nitrogen resins which makes up 30% of the polymer solids and a combination of alkyd resins, acrylic resins, epoxy resins, and polyester resins which makes up 70% of the polymer solids.

PIGMENTS

Pigments comprise 1-35% of the waste. Pigments are composed as follows:

1. Extenders (carbonates, silicates, sulfates) 15-25%
2. Titanium Dioxide - 40-50%
3. Iron Oxides - 0-2%
4. Inert Organic Collorants - 20-30%
5. Lead & Chromate Pigments* - 0-10%
6. Aluminum Pigments - 0-2%

*Heavy metal pigments in the form of lead and Zinc Chromate comprise 0-3.5% of the total waste. See Toxicity information of Lead and Zinc Chromates attached to WOT-1.

SOLVENTS

Solvents comprise 20-65% of the waste, they include the following:

1. Aromatics - 36%
2. Alphatics - 17%
3. Ketones - 3%
4. Esters - 21%
5. Alcohols - 22%

WASTE CHARACTERIZATION

DATE 1-4-82

DU PONT CODE WOT-2A

CONTRACTOR'S CODE 1565 E

EPA CODES D001

OTHER CODES

- I. LOCATION TOLEDO OHIO F&F
EPA I.D.# OH-005041843
- II. NAME OF WASTE POPCORN POLYMER

III. COMPOSITION

A. MAJOR COMPONENTS		C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
			UPPER	LOWER	+ACGIH	+OSHA
1.	POLYMERIZED ACRYLIC ESTERS		100			
2.						
3.						
4.						
5.						

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM)

CN	Ag	As	Ba
Cd	Cr	Cu	Hg
Mn	Pb	Se	
Zn	S*	Cl*	N*
	P*	Fl*	I*

OTHER

- IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
- OTHER
- SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO
- LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
- LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? NO
- LIQUID/SOLID PHASES: % FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
- GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ (MC _____)

55-GAL. STEEL DRUMS (DOT 17H)

30-GAL. FIBER DRUMS (DOT _____)

5-GAL. PAILS

OTHER _____

APPROX. WT. PER CONTAINER 300 LBS.

VI. PROPERTIES (CIRCLE) 73DEGREES -100DEGREES

COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F)

(CLOSED CUP) (CLOSED CUP)

CORROSIVE OSHA CARCINOGEN

pH _____ ODOR (YES/NO) NO

Btu/LB. _____ COLOR _____

REACTIVE _____

TOXIC _____

OTHER _____

VII. D.O.T. SHIPPING NAME FLAMMABLE SOLID N.O.S.D.O.T. HAZARD CLASSIFICATION FLAMMABLE SOLIDU.N. NO. 1325

N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL 100 DRS/YR

IX. REMARKS

*Organically bound only

Rev. 2/81

WASTE CHARACTERIZATION

DATE 1/4/82

DU PONT CODE WOT-3

CONTRACTOR'S CODE

EPA CODES

OTHER CODES

I. LOCATION TOLEDO, OHIO F & F
 EPA I.D.# OH-005041843

II. NAME OF WASTE WASTE PIGMENT DUST MIXED

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	OSHA	NIOSH
1. <u>TITANIUM DIOXIDE</u>		<u>50</u>	<u>40</u>		
2. <u>EXTENDERS</u>		<u>25</u>	<u>15</u>		
3. <u>LEAD CHROMATE/ZINC CHROMATE</u>		<u>10</u>	<u>0</u>	<u>50 UG/M³</u>	<u>LEAD</u>
4. <u>IRON OXIDE</u>		<u>2</u>	<u>0</u>	<u>100 UG/M³</u>	<u>CHROMATE</u>
5. <u>MISC. INERT ORGANIC PIGMENTS</u>		<u>30</u>	<u>20</u>		

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN Ag As Ba
 Cd Cr Cu Hg Ni Pb Se
 Zn S* Cl* N* P* Fl* I*
 OTHER

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
 OTHER

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? YES
 LIQUIDS : MULTIPLE PHASES? VOL% OF EACH PHASE
 LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? POURED?
 LIQUID/SOLID PHASES: 2 FREE FLOWING LIQUID LAYER (VOLUME %)
 GASES : PRESSURE OF CONTAINER PSIG

V. CONTAINMENT (CIRCLE)

BULK (MC)
 55-GAL. STEEL DRUMS (DOT)
30-GAL. FIBER DRUMS (DOT)
 5-GAL. PAILS
 OTHER
 APPROX. WT. PER CONTAINER 200 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP °F) IGNITABLE (FP °F)
 (CLOSED CUP) (CLOSED CUP)
 CORROSIVE OSHA CARCINOGEN
 pH ODOR (YES/NO) NO
 Btu/LB. COLOR
 REACTIVE
TOXIC HEAVY METALS
 OTHER

VII. D.O.T. SHIPPING NAME PAINT DRY NOI
 D.O.T. HAZARD CLASSIFICATION NOT REGULATED
 U.N. NO. N.A. NO.

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST
 ANNUAL 35 DRUMS/ YR.

IX. REMARKS

*Organically bound only

Rev. 2/81

DESCRIPTION OF PIGMENTS

PIGMENTS

A wide assortment of pigments and extenders are present. Some of the more prevalent ones are Titanium dioxide, zinc and iron oxides, inorganic silicates, carbon blacks and organic pigments (including phthalocyanines and quinacridones). Present in small amounts are lead chromate pigments.

*Lead and zinc chromate were declared suspect carcinogens in accordance with established Du Pont procedures. See Toxicity information on WOT-1.

WASTE CHARACTERIZATION

DATE 1/4/82

DOT CODE WOT-5

I. LOCATION TOLEDO, OHIO F & F

CONTRACTOR'S CODE

EPA I.D.# OHD-005041843EPA CODES N/A

OTHER CODES

II. NAME OF WASTE EMPTY DRUMS CONTAMINATED WITH DOWTHERM (HEATING OIL)

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	OSHA	NIOSH
1. DIPHENYL OXIDE	73.5%	1.0	0.5	2.0PPM	1.0PPM
2. DIPHENYL	26.5%			"	"
3. DRUMS		99.5	99.0		
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM)

Cd	Cr	Cu	Hg	Ni	Pb	Se
Zn	S*	Cl*	M*	P*	Fl*	I*

OTHER

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED?

LIQUIDS : MULTIPLE PHASES? VOL% OF EACH PHASE

LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? NO

LIQUID/SOLID PHASES: 2 FREE FLOWING LIQUID LAYER (VOLUME %)

GASES : PRESSURE OF CONTAINER PSIG

V. CONTAINMENT (CIRCLE)

BULK (MC)

55-GAL. STEEL DRUMS (DOT 17H-17E)

30-GAL. FIBER DRUMS (DOT)

5-GAL. PAILS

OTHER

APPROX. WT. PER CONTAINER 50 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP 238°F) IGNITABLE (FP °F)

(CLOSED CUP)

(CLOSED CUP)

CORROSIVE

OSHA CARCINOGEN

PH ODOR (YES/NO) YES

Btu/LB. COLOR

REACTIVE

TOXIC SEE ATTACHED

OTHER

VII. D.O.T. SHIPPING NAME HEAT TRANSFER MEDIAD.O.T. HAZARD CLASSIFICATION NOT REGULATED

U.N. NO.

N.A. NO.

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL 10 DRUMS/ YEAR

IX. REMARKS

*Organically bound only

Rev. 2/81

CRITICAL DATA WOT-5

A. Very Hazardous

B. Handling

Adequate ventilation along with face shield, synthetic gloves and apron.

C. Toxicology

This material gives off extremely irritating vapors and is a corrosive skin irritant and toxic if swallowed.

D. Emergency First Aid

Eyes: Flush with water for 5 minutes, get medical attention.
Skin: Promptly flush skin with water.

WASTE CHARACTERIZATION

DATE 1-4-82

DU POST CODE WOT-5A

CONTRACTOR'S CODE 1565 F

EPA CODES

OTHER CODES

I. LOCATION TOLEDO OHIO F&F

EPA I.D.# OHD-005041843

II. NAME OF WASTE DRUM CONTAMINATED WITH DOWTHERM & WATER

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	4000H	4000A
1. DIPHENYL OXIDE	73.5%			2.0PPM	1.0PPM
2. DIPHENYL	26.5%				
3. WATER		90	10		
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN _____ Ag _____ As _____ Ba _____
Cd _____ Cr _____ Cu _____ Hg _____ Ni _____ Pb _____ Se _____
Zn _____ S* _____ Cl* _____ N* _____ P* _____ Fl* _____ I* _____
OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER _____

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO

LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____

LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES POURED? YES

LIQUID/SOLID PHASES: 1 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____

GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ (MC _____)

55-GAL. STEEL DRUMS (DOT _____)

30-GAL. FIBER DRUMS (DOT _____)

5-GAL. PAILS

OTHER _____

APPROX. WT. PER CONTAINER _____ LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP 238 °F) IGNITABLE (FP _____ °F)

(CLOSED CUP) (CLOSED CUP)

~~CORROSIVE~~

OSHA CARCINOGEN

PH _____ ODOR (YES/NO) YES

Btu/LB. _____ COLOR _____

REACTIVE

~~TOXIC~~ SEE ATTACHED

OTHER _____

VII. D.O.T. SHIPPING NAME WASTE HEAT TRANSFER MEDIA

D.O.T. HAZARD CLASSIFICATION NOT REGULATED

U.N. NO. _____ H.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____

ANNUAL 100 DRS/YR

IX. REMARKS

*Organically bound only

Rev. 2/81

CRITICAL DATA WOT-5A. Very HazardousB. Handling

Adequate ventilation along with face shield, synthetic gloves and apron.

C. Toxicology

This material gives off extremely irritating vapors and is a corrosive skin irritant and toxic if swallowed.

D. Emergency First Aid

Eyes: Flush with water for 5 minutes, get medical attention.

Skin: Promptly flush skin with water.

WASTE CHARACTERIZATION

DATE 1-4-82

DU PONT CODE WOT-6

CONTRACTOR'S CODE 1565 D

EPA CODES N/A

OTHER CODES

I. LOCATION TOLEDO OHIO F&F
EPA I.D.# OH-005041843

II. NAME OF WASTE EMPTY ACRYLAMIDE BAGS

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	ACGIH ³	NIOSH ³
1. ACRYLAMIDE		2	0.4	0.9MG/M ³	0.3MG/M ³
2. PAPER		99.6	98		
3.					
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN Ag As Ba
Cd Cr Cu Hg Ni Pb Se
Zn S* Cl* N* P* Fl* I*
OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
OTHER _____
SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? YES
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? NO
LIQUID/SOLID PHASES: 1 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ (MC _____)
55-GAL. STEEL DRUMS (DOT _____)
30-GAL. FIBER DRUMS (DOT _____)
5-GAL. PAILS
OTHER _____
APPROX. WT. PER CONTAINER 75 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F)
(CLOSED CUP) (CLOSED CUP)
CORROSIVE OSHA CARCINOGEN
pH _____ ODOR (YES/NO) NO
Btu/LB. _____ COLOR _____
REACTIVE _____
TOXIC SEE ATTACHED
OTHER _____

VII. D.O.T. SHIPPING NAME WASTE ACRYLAMIDE
D.O.T. HAZARD CLASSIFICATION ACRYLAMIDE
U.M. NO. 2074 N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____
ANNUAL 4000 BAGS/YR

IX. REMARKS

*Organically bound only

Rev. 2/81

CRITICAL DATA - WOT-6A. Extreme HazardB. Handling

Wear synthetic gloves and boots. Provide adequate ventilation. Acrylamide may polymerize with considerable violence upon melting (84.5°C).

C. Toxicology

The chief toxic effect is neurotoxicity by skin absorption, inhalation, and swallowing. It attacks the central nervous system producing disturbances of equilibrium, weakness in the limbs, and tremors. In sublethal doses the severity of nervous symptoms and the rapidity with which they appear depends upon the size of the dose. Repeated small doses are cumulative and will eventually produce symptoms. The acute toxic effects are reversible. Acrylamide is moderately toxic.

D. Emergency First Aid

If material comes in contact with skin, promptly flush the contaminated area with water followed by washing with soap and water. Eye contact should be flushed with water. Obtain medical assistance. Contaminated clothing should be removed promptly and be laundered before re-use.

WASTE CHARACTERIZATION

DATE April 26, 1982DU PONT CODE WOT-7

CONTRACTOR'S CODE _____

EPA CODES N/A

OTHER CODES _____

I. LOCATION TOLEDO, OHIO F & FEPA I.D.# OHD-005041843II. NAME OF WASTE EMPTY ACRYLONITRILE DRUMS

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+ACGIH	+MNH
1. <u>ACRYLONITRILE</u>		<u>1.0</u>	<u>0.5</u>	<u>20 PPM</u>	
2. <u>METAL DRUMS</u>		<u>99.5</u>	<u>99.0</u>		
3. _____					
4. _____					
5. _____					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN Ag As Ba
Cd Cr Cu Hg Ni Pb Se
Zn S* Cl* N* P* Fl* I*
 OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GASOTHER DRUMS CONTAINING RESIDUAL LIQUID

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO
 LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
 LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? NO
 LIQUID/SOLID PHASES: 1 FREE FLOWING LIQUID LAYER 18 (VOLUME %) _____
 GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ (MC) _____
55-GAL. STEEL DRUMS (DOT 17E)
30-GAL. FIBER DRUMS (DOT _____)
5-GAL. PAILS
 OTHER _____
 APPROX. WT. PER CONTAINER _____ LBS.

VI. PROPERTIES (CIRCLE)

73°-100°
 COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F)
 (CLOSED CUP) (CLOSED CUP)
 CORROSIVE OSHA CARCINOGEN
 pH _____ ODOR (YES/NO) _____
 Btu/LB. _____ COLOR _____
 REACTIVE _____
 TOXIC _____
 OTHER SEE ATTACHED

VII. D.O.T. SHIPPING NAME ACRYLONITRILED.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUID

U.N. NO. _____

N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____

ANNUAL 36 DRUMS / YEAR

IX. REMARKS _____

*Organically bound only

Rev. 2/81

CRITICAL DATA - WOT-7

A. Very Hazardous

B. Handling

Wear neoprene or butyl rubber gloves and apron and provide adequate ventilation.

C. Toxicology

This material is teratogenic, a corrosive skin irritant, toxic if swallowed and its vapors are extremely toxic after short exposures.

D. Emergency First Aid

Remove the person from contact without delay and call physician. All spill on the skin must be flushed immediately with plenty of water and wash with soap and water. If splashed in the eyes, flush with plenty of water for at least 15 minutes and get medical attention.

WASTE CHARACTERIZATION

DATE 6/1/82

DU PONT CODE WOT-8

CONTRACTOR'S CODE L-5399

EPA CODES D001

OTHER CODES

I. LOCATION TOLEDO, OHIO

EPA I.D.# OHD-005041843

II. NAME OF WASTE UNREACTION/ PARTIALLY REACTION MONOMERS

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	OSHA	NIOSH
1. ESTERS OF ACRYLIC AND METHACRYLIC ACIDS	70	40			
2. ACRYLIC & METHACRYLIC ACID					
3. STYRENE					
4. AROMATICS, BUTYL ALCOHOL	60	30			
5. ESTERS OF ETHYLENE GLYCOL					
6. ALIPHATICS					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CH _____ Ag _____ As _____ Ba _____
Cd _____ Cr _____ Cu _____ Hg _____ Ni _____ Pb _____ Se _____
Zn _____ S* _____ Cl* _____ N* _____ P* _____ Fl* _____ I* _____
OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER _____

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? _____
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES _____ POURED? YES _____
LIQUID/SOLID PHASES : FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG _____

V. CONTAINMENT (CIRCLE)

BULK _____ (MC _____)
55-GAL. STEEL DRUMS (DOT 17E 17H) _____
30-GAL. FIBER DRUMS (DOT _____)
5-GAL. PAILS _____
OTHER _____
APPROX. WT. PER CONTAINER 450 LBS.

VI. PROPERTIES (CIRCLE)

73°F TO -100°F
COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F) _____
(CLOSED CUP) (CLOSED CUP)
CORROSIVE _____ OSHA CARCINOGEN _____
pH _____ ODOR (YES/NO) YES _____
Btu/LB. _____ COLOR _____
REACTIVE MONOMERS (INHIBITED) _____
TOXIC _____
OTHER _____

VII. D.O.T. SHIPPING NAME WASTE FLAMMABLE LIQUID NOS

D.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUID

U.N. NO. 1993

N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL 100/YR

IX. REMARKS

*Organically bound only

Rev. 2/81

WASTE CHARACTERIZATION

DATE 1/4/82

DU POST CODE WOT-9

I. LOCATION TOLEDO, OHIO F & F

CONTRACTOR'S CODE

EPA I.D.# OHD-005041843

EPA CODES D001

OTHER CODES WPS 6387

II. NAME OF WASTE WASTE RESINS

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+ACGIH	+OSHA
1. POLYMER SOLIDS		70	50		
2.		50	30		
3.					
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM): CN Ag As Ba
Cd Cr Cu Hg Ni Pb Se
Zn S* Cl* N* P* Fl* I*

OTHER P-BENZOQUINONE AS A REACTION INHIBITER. SEE ATTACHED FOR DESCRIPTION OF COMPONENTS

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
OTHER

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? _____
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES _____ POURED? YES _____
LIQUID/SOLID PHASES: % FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)
BULK _____ (MC _____)
55-GAL. STEEL DRUMS (DOT 17H-17E)
30-GAL. FIBER DRUMS (DOT _____)
5-GAL. PAILS
OTHER _____
APPROX. WT. PER CONTAINER 450 LBS.

VI. PROPERTIES (CIRCLE)
COMBUSTIBLE (FP _____ °F) IGNITABLE (FP 73-100 °F)
(CLOSED CUP) (CLOSED CUP)
CORROSIVE OSHA CARCINOGEN
PH _____ ODOR (YES/NO) MILD
Btu/LB. _____ COLOR _____
REACTIVE _____
TOXIC _____
OTHER SEE ATTACHED

VII. D.O.T. SHIPPING NAME WASTE PAINT LIQUID

D.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUID

U.N. NO. 1993

N.A. NO.

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL 100 DRUMS / YEAR

IX. REMARKS

*Organically bound only

Rev. 2/81

DESCRIPTION OF RESIN COMPONENTS

SOLVENTS

Various solvents are used in paint for a vehicle and include: alcohols, ketones (such as acetone, methylethyl ketone), aromatic and aliphatic hydrocarbons (such as mineral spirits, toluene, xylene).

POLYMER SOLIDS

Polymer solids are composed of a variable mixture of alkyd, acrylic, nitrogen, polyester and epoxy resins which are the paint organic binders of film formers.

WASTE CHARACTERIZATION

DATE 1/4/82

DU POST CODE WOT-10

CONTRACTOR'S CODE

EPA CODES U122

OTHER CODES WPS 6443

I. LOCATION TOLEDO, OHIO

EPA I.D.# OHD-005041843

II. NAME OF WASTE WASTE PARAFORMALDEHYDE/FORMALDEHYDE MIXTURE

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+ACGIH	+OSHA
1. FORMALDEHYDE		50	0		
2. PARA-FORMALDEHYDE		100	0		
3. WATER		80	50		
4.					
5.					

3. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN _____ Ag _____ As _____ Ba _____
Cd _____ Cr _____ Cu _____ Hg _____ Ni _____ Pb _____ Se _____
Zn _____ S* _____ Cl* _____ N* _____ P* _____ Fl* _____ I* _____
OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER _____

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? _____
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES _____ POURED? YES _____
LIQUID/SOLID PHASES: 2 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ (MC) _____
45-GAL. STEEL DRUMS (DOT 17E 17H) _____
30-GAL. FIBER DRUMS (DOT) _____
5-GAL. PAILS _____
OTHER _____
APPROX. WT. PER CONTAINER _____ LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP 170 °F) IGNITABLE (FP _____ °F) _____
(CLOSED CUP) (CLOSED CUP)
CORROSIVE _____ OSHA CARCINOGEN _____
pH _____ ODOR (YES/NO) PUNGENT _____
Btu/LB. _____ COLOR _____
REACTIVE _____
TOXIC _____
OTHER SEE ATTACHED _____

VII. D.O.T. SHIPPING NAME WASTE FORMALDEHYDE SOLUTION

D.O.T. HAZARD CLASSIFICATION POISON B

U.M. NO. 2209

N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____

ANNUAL 20 DRUMS / YEAR

IX. REMARKS _____

*Organically bound only

Rev. 2/81

10.

...

CRITICAL DATA - WOT-10

A. Very Hazardous

B. Handling

Provide adequate ventilation with face shield and synthetic gloves and synthetic apron.

C. Toxicology

Highly toxic by inhalation and oral intake. The vapors are very irritating to the eyes and upper respiratory passages. Both gas and liquid solution have a tanning action upon the skin and are pronounced irritants. The liquid can cause severe eye burns.

D. Emergency First Aid

If formaldehyde has been inhaled, remove person(s) to fresh air. In case of contact, wash formaldehyde solution from skin with large quantities of water. For eye splash, wash eyes freely with water for 15 minutes.

WASTE CHARACTERIZATION

DATE 1/4/82

DU PORT CODE WOI-11

I. LOCATION TOLEDO, OHIO F & F
EPA I.D.# OHD-005041843

CONTRACTOR'S CODE

EPA CODES D001

OTHER CODES

II. NAME OF WASTE OFF-STANDARD - UREA FORMALDEHYDE RESIN

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	ACGIH	OSHA
1. BENZOQUANAMINE		65	55		
2. MELEMINE FORMALDEHYDE					
3. FORMALDEHYDE		1.5	0	2 PPM	
4. XYLOL		5	0		
5. BUTYL ALCOHOL		45	35		

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN _____ Ag _____ As _____ Ba _____
Cd _____ Cr _____ Cu _____ Hg _____ Ni _____ Pb _____ Se _____
Zn _____ S* _____ Cl* _____ N* _____ P* _____ Fl* _____ I* _____
OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
OTHER _____
SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES POURED? _____
LIQUID/SOLID PHASES: 2 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)
BULK MC
55-GAL. STEEL DRUMS (DOT 17H-17E)
30-GAL. FIBER DRUMS (DOT)
5-GAL. PAILS
OTHER _____
APPROX. WT. PER CONTAINER 525 LBS.

VI. PROPERTIES (CIRCLE)
COMBUSTIBLE (FP 73-100 °F) IGNITABLE (FP 73-100 °F)
(CLOSED CUP) (CLOSED CUP)
CORROSIVE OSHA CARCINOGEN
PH _____ ODOR (YES/NO)
Btu/LB. _____ COLOR _____
REACTIVE
TOXIC IRRITANT, TOXIC IF INHALED*
OTHER _____

VII. D.O.T. SHIPPING NAME UREA FORMALDEHYDE (NOI)

D.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUID

U.N. NO. _____

N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL 100 DRUMS / YEAR

IX. REMARKS WEAR SYNTHETIC GLOVES AND
PROVIDE ADEQUATE VENTILATION

*Organically bound only

Rev. 2/81

WASTE CHARACTERIZATION

DATE 1/4/82

DU PORT CODE WOT-12

I. LOCATION TOLEDO, OHIO F & FEPA I.D.# OH-005041843

CONTRACTOR'S CODE

EPA CODES D001OTHER CODES WPS 6385II. NAME OF WASTE SOLVENT RECOVERY SLUDGE

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	OSHA	MSHA
1. PIGMENT	18%	23	13		
2. RESIN SOLIDS	39%	45	30		
3. SOLVENTS	43%	51	35		
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM)

Cd	Cr	Cu	Hg	Ni	Pb	Se
Zn	S*	Cl*	N*	P*	Fl*	I*

OTHER

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER SEE ATTACHMENT FOR DESCRIPTION OF COMPONENTS

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO

LIQUIDS : MULTIPLE PHASES? NO VOL% OF EACH PHASE

LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? YES

LIQUID/SOLID PHASES: 1 FREE FLOWING LIQUID LAYER 1 (VOLUME %) (VOLUME %)

GASES : PRESSURE OF CONTAINER PSIG

V. CONTAINMENT (CIRCLE)

BULK MC

55-GAL. STEEL DRUMS (DOT 17H)

30-GAL. FIBER DRUMS (DOT)

5-GAL. PAILS

OTHER

APPROX. WT. PER CONTAINER 450 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP 73-100°F) IGNITABLE (FP 73-100°F)

(CLOSED CUP) (CLOSED CUP)

CORROSIVE OSHA CARCINOGEN

pH ODOR (YES/NO)

Btu/LB. COLOR

REACTIVE

TOXIC HEAVY METALS

OTHER SEE ATTACHED

VII. D.O.T. SHIPPING NAME WASTE FLAMMABLE LIQUID NOSD.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUIDU.N. NO. 1993

N.A. NO.

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL 2,500 DRUM/ YEAR

IX. REMARKS

*Organically bound only

Rev. 2/81

96

DESCRIPTION OF SOLVENT RECOVERY SLUDGE

POLYMER SOLIDS

Polymer solids are composed of a variable mixture of alkyd, acrylic, nitrogen, polyester and epoxy resins which are the paint organic binders of film formers. (Polymer solids = 39%)

PIGMENTS

A wide assortment of pigments and extenders are present. Some of the more prevalent ones are Titanium dioxide, zinc and iron oxides, inorganic silicates, carbon blacks and organic pigments (including phthalocyanines and quinacridones). *Present in small amounts are lead chromate pigments. Some clears with no pigmentation may also be included, as well as aluminum flake. (Pigment content = 18%)

SEE ATTACHED TOXICITY INFORMATION ON LEAD CHROMATE

SOLVENTS

Various solvents are used in paint for a vehicle and include: alcohols, ketones (such as acetone, methylethyl ketone), aromatic and aliphatic hydrocarbons (such as mineral spirits, toluene, xylene). (Solvent content = 43%)

*Heavy metal pigments in the form of lead and lead chromate comprise 0-10% of the total pigments.

EXPERIMENTAL STATION
SAFETY PROCEDURE

ISSUED Aug. 1977
REVISED June 1, 1979

PROCEDURES FOR CLASSIFIED CARCINOGENS

CHEMICAL MONOGRAPH - LEAD CHROMATE

CARCINOGEN CLASSIFICATION:

ACGIH (A2)
Du Pont Suspect Carcinogen
Weak Carcinogen B

SYNONYMS:

Chrome Yellow
Chologne Yellow
King's Yellow
Leipzig Yellow
Paris Yellow

STRUCTURE AND PHYSICAL FORM:

CrO_4Pb	Molecular Weight.	323.2
	Physical Form.	Yellow or Orange-Yellow Powder
	Solubility.	Solutions of Fixed Alkali Hydroxides; Dilute HNO_3

TOXICITY AND CARCINOGENICITY:

The OSHA PEL is $100 \mu\text{g}/\text{m}^3$ as CrO_3 . The TLV[®] is $50 \mu\text{g}/\text{m}^3$ as Cr^{+6} .

Lead chromate is practically nontoxic on single exposure by the oral and inhalation routes (oral ALD > 5000 mg/kg in rats; inhalation of 34 mg/1/6 hr, no deaths). Repeated or prolonged overexposure to the dusts can cause lead poisoning.

A recent epidemiological study has shown that prolonged excessive inhalation of lead chromate pigment dust may produce lung cancer in humans. For many years a high rate of lung cancer deaths has been known to be associated with the chromate producing industry. The exact causative agent remains obscure. However, lead chromate was not present in the chromate producing plants in which this excess was noted.

HANDLING PROCEDURE:

Use Procedure B.

WASTE CHARACTERIZATION

DATE 1/4/82

DU POST CODE WOT-13

I. LOCATION TOLEDO, OHIO F & F

EPA I.D.# OHD-005041843

CONTRACTOR'S CODE

EPA CODES D001

OTHER CODES WPS6386

II. NAME OF WASTE WASTE PAINT LIQUID

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+ACGIH	+OSHA
1. POLYMER SOLIDS		35	25		
2. PIGMENT		35	1		
3. ALUMINUM		2	1		
4. SOLVENT		65	23		
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN _____ Ag _____ As _____ Ba _____
Cd _____ Cr _____ Cu _____ Hg _____ Ni _____ Pb _____ Se _____
Zn _____ S* _____ Cl* _____ N* _____ P* _____ Fl* _____ I* _____

OTHER MORE DETAILED ANALYSIS OF EACH COMPONENT ATTACHED.

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
OTHER _____
SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES POURED? YES
LIQUID/SOLID PHASES: 2 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ OMC _____

55-GAL. STEEL DRUMS (DOT 17H 17E)

30-GAL. FIBER DRUMS (DOT _____)

5-GAL. PAILS

OTHER _____

APPROX. WT. PER CONTAINER 500 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F) 73-100
(CLOSED CUP) (CLOSED CUP)

CORROSIVE

OSHA CARCINOGEN

PH _____ ODOR (YES/NO) MILD

Btu/LB. _____ COLOR _____

REACTIVE _____

TOXIC _____

OTHER SEE ATTACHED

VII. D.O.T. SHIPPING NAME WASTE PAINT LIQUID

D.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUID

U.M. NO. 1263

N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____

ANNUAL 5000 DRUMS / YEAR

IX. REMARKS _____

*Organically bound only

Rev. 2/81

DESCRIPTION OF PAINT COMPONENTS

POLYMER SOLIDS

Polymer solids comprise 25-35% of the waste. These solids include nitrogen resins which makes up 30% of the polymer solids and a combination of alkyd resins, acrylic resins, epoxy resins, and polyester resins which makes up 70% of the polymer solids.

PIGMENTS

Pigments comprise 1-35% of the waste. Pigments are composed as follows:

1. Extenders (carbonates, silicates, sulfates) 15-25%
2. Titanium Dioxide - 40-50%
3. Iron Oxides - 0-2%
4. Inert Organic Colorants - 20-30%
5. Lead & Chromate Pigments* - 0-10%
6. Aluminum Pigments - 0-2%

*Heavy metal pigments in the form of lead chromates and Zinc chromate comprise 0-3.5% of the total waste. See Toxicity information with WOT-12.

SOLVENTS

Solvents comprise 20-65% of the waste, they include the following:

1. Aromatics - 36%
2. Aliphatics - 17%
3. Ketones - 3%
4. Esters - 21%
5. Alcohols - 22%

WASTE CHARACTERIZATION

DATE 1-4-82DU PORT CODE WOT-15CONTRACTOR'S CODE 1565 L

EPA CODES _____

OTHER CODES _____

I. LOCATION TOLEDO OHIO F&FEPA I.D.# OHD-005041843II. NAME OF WASTE ASBESTOS

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+MCCIH	+MCHIA
1. <u>ASBESTOS</u>		<u>100</u>			
2. _____					
3. _____					
4. _____					
5. _____					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN _____ Ag _____ As _____ Ba _____
Cd _____ Cr _____ Cu _____ Hg _____ Ni _____ Pb _____ Se _____
Zn _____ S* _____ Cl* _____ N* _____ P* _____ Fl* _____ I* _____
OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): (SOLID) LIQUID SLUDGE LIQUID/SOLID PHASES GASES
OTHER _____
SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? YES
LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? NO
LIQUID/SOLID PHASES: 1 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ (MC _____)
(55-GAL. STEEL DRUMS) (DOT 17H)
30-GAL. FIBER DRUMS (DOT _____)
5-GAL. PAILS
OTHER _____
APPROX. WT. PER CONTAINER 500 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F)
(CLOSED CUP) (CLOSED CUP)
CORROSIVE OSHA CARCINOGEN
pH _____ ODOR (YES/NO) NO
Btu/LB. _____ COLOR _____
REACTIVE _____
TOXIC _____
OTHER _____

VII. D.O.T. SHIPPING NAME WASTE ASBESTOS

D.O.T. HAZARD CLASSIFICATION _____

U.N. NO. 2590

N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____

ANNUAL 300 DRS/YR

IX. REMARKS _____

*Organically bound only

Rev. 2/81

WASTE CHARACTERIZATION

DATE 1/4/82

DU PONT CODE WOT-16

I. LOCATION TOLEDO, OHIO F & F
EPA I.D.# OH-005041843

CONTRACTOR'S CODE

EPA CODES D001

OTHER CODES

II. NAME OF WASTE WASTE WASH SOLVENT

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+ACGIH	+OSHA
1. ALCOHOLS	5%				
2. AROMATICS	70%				
3. ALIPHATICS	25%				
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM)

Cd	Cr	Cu	Hg	Ni	Pb	Se
Zn	S*	Cl*	N*	P*	Fl*	I*

OTHER

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
OTHER

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED?
LIQUIDS : MULTIPLE PHASES? VOLZ OF EACH PHASE
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES POURED?
LIQUID/SOLID PHASES: 2 FREE FLOWING LIQUID LAYER (VOLUME %)
GASES : PRESSURE OF CONTAINER PSIG

V. CONTAINMENT (CIRCLE)

BULK (MC 307)
55-GAL. STEEL DRUMS (DOT)
30-GAL. FIBER DRUMS (DOT)
5-GAL. PAILS
OTHER
APPROX. WT. PER CONTAINER LBS.

VI. PROPERTIES (CIRCLE)

-73° 100°
COMBUSTIBLE (FP °F) IGNITABLE (FP °F)
(CLOSED CUP) (CLOSED CUP)
CORROSIVE OSHA CARCINOGEN
pH ODOR (YES/NO) MILD
Btu/LB. COLOR
REACTIVE
TOXIC
OTHER

VII. D.O.T. SHIPPING NAME WASTE WASH SOLVENT NOS

D.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUID

U.M. NO. 1993

N.A. NO.

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL

IX. REMARKS

BTU VALVE 15600

*Organically bound only

Rev. 2/81

WASTE CHARACTERIZATION

DATE 1-4-82DU MONT CODE WOT-16-ACONTRACTOR'S CODE 1565 R

EPA CODES _____

OTHER CODES _____

I. LOCATION TOLEDO OHIO F&FEPA I.D.# OHD-005041843II. NAME OF WASTE MOLTEN PHTHALIC ANHYDRIDE (CHIPS IN OPEN HEAD DRUMS)

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	OSHA	NIOSH
1. PHTHALIC ANHYDRIDE		100	0	2PPM	2PPM
2. MOLTEN CHIPS					
3. _____					
4. _____					
5. _____					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM) CN _____ Ag _____ As _____ Ba _____
 Cd _____ Cr _____ Cu _____ Hg _____ Ni _____ Pb _____ Se _____
 Zn _____ S* _____ Cl* _____ N* _____ P* _____ Fl* _____ I* _____
 OTHER _____

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER _____

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO
 LIQUIDS : MULTIPLE PHASES? _____ VOL% OF EACH PHASE _____
 LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? NO POURED? NO
 LIQUID/SOLID PHASES: 2 FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
 GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK _____ (MC _____)

55-CAL. STEEL DRUMS (DOT 17E)

30-CAL. FIBER DRUMS (DOT _____)

5-CAL. PAILS

OTHER _____

APPROX. WT. PER CONTAINER 550 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F)

(CLOSED CUP) (CLOSED CUP)

CORROSIVE OSHA CARCINOGEN

PH _____ ODOR (YES/NO) YES

Btu/LB. _____ COLOR _____

REACTIVE _____

TOXIC _____

OTHER _____

VII. D.O.T. SHIPPING NAME WASTE PHTHALIC ANHYDRIDED.O.T. HAZARD CLASSIFICATION MOLTEN PHTHALIC ANHYDRIDEU.N. NO. 2214 N.A. NO. _____

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____

ANNUAL 100 DRS/YR

IX. REMARKS _____

*Organically bound only

Rev. 2/81

WASTE CHARACTERIZATION

DATE 8-11-82

DU POST CODE WOC-6-DS

I. LOCATION Chicago Plant (F&F)

CONTRACTOR'S CODE

EPA I.D.# ILD 004959433

EPA CODES F003, F005

OTHER CODES

II. NAME OF WASTE Thinner Waste (contains various organic solvents listed below).

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS		
		UPPER	LOWER	ACGIH	NIOSH	
1. Toluene	32.4%	45%	20%			
2. MEK (Methyl Ethyl ketone)	19.4%	30%	10%			
3. Xylene	16.2%	25%	10%			
4. Acetone	2.4%	5%	0%			
5. Misc. [Aliphatic Hydrocarbons]	29.6%	40%	15%			
B. TRACE COMPONENTS NOT LISTED ABOVE (PPM)						
Cd	Cr	Cu	Hg	Ni	Pb	Se
Zn	S*	Cl*	N*	P*	Fl*	I*
OTHER						

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS

OTHER

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? _____
LIQUIDS : MULTIPLE PHASES? NO VOL% OF EACH PHASE _____
LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? Yes POURED? Yes
LIQUID/SOLID PHASES: % FREE FLOWING LIQUID LAYER _____ (VOLUME %) _____
GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

ONLY _____ (MC _____)
55-GAL. STEEL DRUMS (DOT 17H)
30-GAL. FIBER DRUMS (DOT _____)
5-GAL. PAILS
OTHER _____
APPROX. WT. PER CONTAINER _____ LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP _____ °F) IGNITABLE (FP 25 °F)
(CLOSED CUP) (CLOSED CUP)
CORROSIVE OSHA CARCINOGEN
pH _____ ODOR (YES/NO) Yes
Btu/LB. 16,000 COLOR Slightly Yellowish
REACTIVE _____
TOXIC _____
OTHER _____

VII. D.O.T. SHIPPING NAME Paint Liquid

D.O.T. HAZARD CLASSIFICATION Flammable Liquid

U.N. NO. 1993

N.A. NO.

I. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST 70 Drums

ANNUAL

IX. REMARKS

*Organically bound only

Rev. 2/81

104

WASTE CHARACTERIZATION

DATE 8/13/82
 DU PONT CODE WCF-15-L42
 CONTRACTOR'S CODE _____
 EPA CODES F003, F005
 OTHER CODES _____

I. LOCATION FLINT, MICHIGAN FET
 EPA I.D.# M10005512066

II. NAME OF WASTE DIRTY WASH SOLVENTS (LACQUER) NO. 2

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE %		E. EXPOSURE LIMITS	
		UPPER	LOWER	+ACGIH	+CSHA
1. <u>ACETONE</u>		<u>96</u>	<u>92</u>		<u>1000ppm</u>
2. <u>METHYL ETHYL KETONE</u>		<u>4</u>	<u>2</u>		<u>1000ppm</u>
3. <u>TOLUENE</u>		<u>4</u>	<u>2</u>		<u>200ppm</u>
4. _____					
5. _____					

B. TRACE COMPONENTS NOT LISTED ABOVE UNEP NAPHTHA, ISOPROPYL ALCOHOL, RESINS, AND PIGMENTS (SEE ATTACHED)

IV. PHYSICAL STATE @ 25°F (CIRCLE): SOLID LIQUID SLUDGE LIQUID/SOLID PHASES GAS
 OTHER _____

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? NO
 LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? YES POURED? YES
 LIQUID/SOLID PHASES: % FREE FLOWING LIQUID LAYER _____ (VOLUME %)
 GASES : PRESSURE OF CONTAINER _____ PSIG

V. CONTAINMENT (CIRCLE)

BULK (MC _____)
55-GAL. STEEL DRUMS (DOT 17E)
 30-GAL. FIBER DRUMS (DOT _____)
 5-GAL. PAILS
 OTHER _____
 APPROX. WT. PER CONTAINER 400 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP _____ °F) IGNITABLE (FP _____ °F)
 (CLOSED CUP) (CLOSED CUP)
 CORROSIVE OSHA CARCINOGEN
PH 6.0-8.0 ODOR (YES/NO) SOLVENT
 REACTIVE _____
 TOXIC _____
 OTHER _____

VII. D.O.T. SHIPPING NAME WASTE FLAMMABLE LIQUID N.O.S.

D.O.T. HAZARD CLASSIFICATION FLAMMABLE LIQUID

IX. REMARKS WT. SOLIDS 2-6%
SETTLED SOLIDS 30 ML/L MAX.

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST _____
 ANNUAL 807,784 pounds

WOF-15-LM-2

P I G M E N T

A wide assortment of pigments are present. Some of the more prevalent ones are titanium dioxide, iron oxides, inorganic silicates, aluminum flake, carbon black, and organic pigments (including phthalocyanines and guinacridones). present in small amounts (one percent or less of total waste) are lead and zinc chromate pigments. Some clear paints with no pigmentation may be included.

R E S I N / P L A S T I C I Z E R S

This portion is composed of a variable mixture of acrylic and alkyd resins, cellulose acetate butyrate, and butyl benzyl phthalate which are the organic binders or film formers of the paint. Their ratio is approximately 8/3/3/1.

IV. SPECIFIC ANALYSIS OF WASTE

ANSWER EVERY ITEM IN THIS SECTION
DO NOT LEAVE BLANKS. If the specific
element is not present, indicate "none".

Organic Bound Sulfur* NONE ZWT
" " Chlorine* NONE ZWT
" " Fluorine* NONE ZWT
" " Bromine* NONE ZWT
" " Iodine* NONE ZWT
" " Nitrogen NONE ZWT
" " Phosphorous NONE ZWT
(Base ZWT on Molecular Structure)

Metals

Lead* Less than 50 PPM
Mercury* NONE PPM
Arsenic NONE PPM
Barium NONE PPM
Cadmium NONE PPM
Chromium Less than 50 PPM
Selenium NONE PPM
Silver NONE PPM

*These items are specifically required by
RCRA Part 265 Subpart O

Does this waste contain PCBs? (circle)

☒ NO YES If yes, attach explanation
identifying concentration of each.

Does this waste contain Insecticides,
Pesticides, Herbicides or Rodenticides?

☒ NO YES If yes, attach explanation
identifying concentration of each.

Drum Labels (DOT) FLAMMABLE

Placards FLAMMABLE

V. TOXICITY - See WCF

Ingestion; explain _____
Inhalation; explain _____
Dermal; explain _____
Eyes; explain _____
Other; explain _____
Carcinogen(suspected or known); explain _____

VI. PHYSICAL PROPERTIES

Physical State @70°F (circle)

SEE WCF
Liquid Semisolid Solid

Slurry Sludge Gas

Viscosity @ 70°F 100 pus cps

Is material pourable/pumpable? (circle)

SEE WCF
NO YES

Is waste multi-layered? ☒ NO

1. (top) 2 3.

2. 2 4.

Color: Opague - white

BTU Value/lbs.* 14122 - 1423

Dissolved Solids 2-6

Suspended Solids _____
(identify and indicate % by WT)

*Specifically required by RCRA Part
265 Subpart O.

Flash Point: SEE WCF

Specific Gravity: LBS/DRUM ON WCF

pH: SEE WCF

Characteristics

Color: SEE WCF

Odor: SEE WCF

Other: _____

VII. REACTIVITY SEE WCF

(circle) Stable Unstable

Handling conditions to avoid

Chemical Incompatibility

C-2. Waste Analysis Plan

The following plan for wastes generated on-site embodies the development of the Waste Characteristic Forms (see Section C-1) and determining, by knowledge of the ingredients and processes, whether a particular waste stream is a RCRA waste or not. The steps outlined in C-2 a through d below address the Section 264.13(b) requirements. C-2e addresses the spent solvent brought from other F&FP plants.

C-2a. Parameters and Rationale

The primary hazard characteristic of solvent-based paint products is ignitability. There are no acutely toxic, immediate effects from contact with paint waste. There can be some effect from inhaling too high a concentration of solvent vapors (lack of adequate ventilation) but this is not an expected condition in closed, well-ventilated or out-of-doors storage facilities. In terms of longer term impact of paint waste on the environment, heavy metal content--primarily lead and chromium (+6)--and liquid organics must be considered, not for storage but for choosing a disposal method. Thus, the primary parameters to consider are:

- Flash Point
- Lead/Chromate Content
- Physical State, i.e., Liquid or not

Other items to be considered are indicated on the Waste Characterization Form (WCF) as described in Section C-1.

C-2b. Test Methods

As outlined in C-1, all our wastes are self-generated and characterized from known processes and formulations. Most are a composite of tens or hundreds of finished product codes--but exhibiting a common hazard denominator, ignitability. The characterizing procedure is as follows:

1. A waste stream is defined by the Solid Waste Coordinator (see C-3, Sampling Method),
2. A chemist or engineer familiar with the generating process determines the product(s) that would be present, and using his/her knowledge and the formula file, computes the average concentration range for major ingredients and indicates trace items.
3. Then other data on physical state, hazard designations, safety considerations, etc. are indicated.
4. Additional descriptions and/or hazard warning information may be appended.
5. The site DOT coordinator is then consulted to select proper containers and DOT shipping name, class, number, etc.
6. A review by the Solid Waste Coordinator completes the process.

It should be noted that this review can result in a waste being found not a RCRA hazard waste. If there is any doubt, flash points might be run using the Setaflash Closed Cup Tester and ASTM D-3278-78 standard in the plant laboratory. If necessary,

the Extraction Procedure Toxicity test, as detailed in 40 CFR 261.24 at 45 FR 33122 et seq (May 19, 1980), is run by the F&FP Department's Process Engineering Group at the Marshall Laboratory, Philadelphia.

Should a totally unknown waste be found on the site (by operator error, mislabeling, etc.), the plant laboratory has gas chromatography capability to identify solvents. As mentioned in C-1, this characterizing process is applied to possible waste streams to be prepared for unexpected, one-time waste streams that require prompt incineration. The WCF is made part of a contract for this eventuality with a RCRA incinerator operator.

C-2c. Sampling Methods

Determination of unique waste streams in the plant is done by the Solid Waste Coordinator and Area Supervisors. Whenever the generating area has a new waste stream, it is reviewed for fit to existing WCF's; if not, a new WCF is prepared (see C-2b). As discussed above, there is normally no sampling needed to effectively characterize the waste stream.

If a drum of waste is unknown, it would be thoroughly agitated (internal agitation blade or drum tumbler) for 4-8 hours. A pint sample would then be poured from the drum for laboratory analysis.

C-2d. Frequency of Analyses

WCF's are prepared whenever a new waste stream is encountered (or anticipated). Since most of these are part of an off-site waste disposal contract, they are reviewed each time a contract is renewed. Significant changes in process or product

OHD 005041843

SAMPLE OF HAZARDOUS WASTE LABEL APPLIED TO ALL CONTAINERS IN
STORAGE.

D. PROCESS INFORMATION

The storage facilities at this site involve only containers and tanks. No Waste Piles, Impoundments, Incinerators, Landfills or other Treatment/Disposal Operations are present. Thus, this section will consist only of D-1 and D-2.

D-1. ContainersD-1a. Containers with Free Liquids

Only WCF's Nos. WOT-1, 3, 6, & 15 are classified as having no free liquids. All others are in this category, including those spent solvents normally kept in tanks but occasionally temporarily kept in drums (prior to pumping into the tank system).

D-1a(1). Description of Containers

The containers used for the HW storage facility's primary containment are all DOT-approved shipping containers for the paint-type materials. The two major types used are:

- 55 gallon steel drums (open and closed head types) and 5 gallon steel pails (open and closed head types). Both new and reconditioned (per DOT approved procedures) drums are used. These containers are selected to meet DOT specifications and represent years of experience in shipping similar hazard classification finished product.
- Portable Tanks (440 or 550 gallon working capacity). These tanks are 42" x 42" x 69" high or 48" x 48" x 75" high standing on their own legs (with allowance for fork truck lifting). Solvent-based paints and

-23-

paint ingredients have been handled, stored, and shipped in containers of these constructions for decades with no evidence of internal corrosion or other degradation of the metals. Lined containers are not used. The portable (magnesium or aluminum) tanks stand 8" off the ground and are not in contact with any surface water. The drums and pails are all stored exclusively on pallets (5" high) and are along the highest elevation edge of the sloped storage pad (away from drains).

All containers are stenciled with type and source of waste (which area generated)--except portable tanks which use a card in a metal holder. All portable tanks are destined for recovery on-site. All drums or pails have an orange HW label--includes the wording of Section 262.32(b)--placed on them when put into storage (see sample on next page). A strapped pallet of pails may have only 1 HW label per side.

D-1a(2). Container Management Practices

Because of the ignitable and volatile characteristics of almost all of the materials on the site, keeping process equipment and containers closed, except for filling or emptying, is a universal plant practice. Prevention of accumulations of organic vapors is a prime concern in all paint plants. No drums or portable tanks are moved from the point of filling without all bungs and heads tightly secured (to DOT standards for shipping). Drums are palletized and moved by fork lift truck. HW's are marked for type and source (generating area) of waste and the

OHD 005041843

AREA OPERATING PROCEDURE (AOP) NO. 655.000, WHICH OUTLINES HOW TO
SAMPLE AND EVALUATE THIS ACCUMULATED WATER BEFORE RELEASE, IS
ATTACHED. THE KEY POINTS ARE:

- 0 LEVEL CHECKS TO BE MADE:
 - EVERY FRIDAY TO INSURE MINIMAL AMOUNT IN RETENTION
BASIN TO START WEEKEND.
 - AFTER EVERY MAJOR STORM.
- 0 SAMPLE NEAR SURFACE.
- 0 POUR INTO A GLASS JAR AND ALLOW TO SIT 5 MINUTES.
- 0 OBSERVE FOR:
 - ODOR OF SOLVENTS, RESINS, PAINTS
 - PHASE SEPARATION (ORGANICS TO TOP)
 - CLOUD FROM PARTIALLY MISCIBLE ORGANICS
 - COLORATION DUE TO PIGMENTATION
- 0 IF ANY INDICATION OF ORGANICS IS PRESENT. TAKE SAMPLE
TO LAB AND RUN GAS CHROMATOGRAM FOR TOLUENE, XYLENE
AND ACETONE.
- 0 IF NO ORGANICS ARE INDICATED, RELEASE TO SEWER AND
IMMEDIATELY CLOSE THE VALVE.
- 0 RECORD OBSERVATIONS AND RELEASE ON OPERATING RECORD
LOG (SAMPLE ATTACHED).
- 0 IF THE WATER CONTAINS SIGNIFICANT AMOUNTS ORGANICS,
THE SITE SOLID WASTE COORDINATOR AND PLANT
ENGINEERING SUPERINTENDENT MUST DECIDE ON APPROPRIATE
DISPOSAL DEPENDING ON CONCENTRATION AND IDENTIFY
FOUND IN THE LAB TEST:
 - PUMP OUT FOR POTW

-25-

orange waste labels affixed as described in D-1a(1). Pallets of HW are placed in the diked storage against the curb line--two pallets deep and three pallets high (aisle markings are clear to the fork truck operator). This placement allows observation of the pallet stack from both sides during weekly inspections. One fork truck at a time operates in the area to reduce chance of accidents. Containers are not normally dated since the HW storage facility has no time limit on subsequent movement. However, as soon as an economical load destined for a particular contract disposer has been accumulated, the arrangements are made for prompt shipment.

D-1a(3). Secondary Containment System Design and Operation

The HW storage area for containers is located on the East side of a large pad originally constructed to hold ignitable liquid (finished products) containers. The pad is 310 feet by 112 feet and the portion designated for HW is 310 feet by 15 feet. The attached drawings show the pad area, elevation of curbing, drainage system, retention basin, and outlet valve. Access by fork truck is on down-sloping ramps.

D-1a(3)(a). Requirement for the Base to Contain Liquids

The base is concrete--crack and gap free, about 8" thick, and sloped to a series of drains. The concrete curbing ranges from 6" to 12" high (higher where pad slopes downward than at the ends). The HW's stored on the pad (as are the finished products) are composed largely of organic solvents which have no corrosion or chemical effect on the concrete. The amount of organic solvent migration through the base would be minimal in

-26-

light of the short period of exposure (daily surveillance--weekly inspection).

D-1a(3)(b). Containment System Drainage

As indicated in D-1a(1), all containers are on 5" high wooden pallets except the portable tanks (magnesium or aluminum) which have 8" legs. This dunnage (or metal legs) combined with the slope toward the drains will insure that the containers will not be in contact with rain water or possible HW leakage.

D-1a(3)(c). Containment System Capacity

From the attached drainings, the volume of liquid which can be contained on the pad behind retention basin release valve is 424,000 gallons. The HW storage capacity in its designated area is 56,000 gallons. The secondary containment system will hold 757% of the maximum HW gallonage, thus well exceeding the 10% requirements of 40 CFR 264.175(a)(3). A safety factor in this system is the almost impossible probability that the worst accident could rupture and release the contents of 102 HW drums at once (10% of total HW drums).

D-1a(3)(d). Control of Run-On

Very little rain will run onto the pad due to the curbing around most of the pad and relatively flat roadways on two sides where the sloping ramps for fork truck access are located. As the figures in D-1a(3)(c) indicate, there is adequate excess capacity for any precipitation--direct or run-on.

D-1a(4). Removal of Liquids from Containment System

With the retention basin outlet valve closed, any precipitation--even assuming no leaks of HW or finished

-27-

product--will cause a build up of water in the drainage system. Area Operating Procedure (AOP) No. 655.000, which outlines how to sample and evaluate this accumulated water before release, is attached. The key points are:

- Level checks to be made:
 - Every Friday to insure minimal amount in retention basin to start weekend.
 - After every major storm.
- Sample near surface.
- Pour into a glass jar and allow to sit 5 minutes.
- Observe for:
 - Odor of solvents, resins, paints
 - Phase separation (organics to top)
 - Cloud from partially miscible organics
 - Coloration due to pigmentation
- If any indication of organics is present, take sample to lab and run gas chromatogram for Toluene, Xylene and Acetone.
- If no organics are indicated, release to sewer and immediately close the valve.
- Record observations and release on operating record log (sample attached).

- If the water contains significant amounts organics, the site Solid Waste Coordinator and Plant Engineering Superintendent must decide on appropriate disposal depending on concentration and identify found in the lab test:
 - Pump out for POTW
 - Pump out for incineration off-site

SAMPLE LOGSECONDARY CONTAINMENT RELEASE LOG

<u>Date</u>	<u>Name</u>	<u>Results</u>				<u>Lab</u> <u>Results</u>	<u>Released</u>
		<u>Sample Observed For</u>					
		<u>Odor</u>	<u>2-Phase</u>	<u>Color</u>	<u>Cloud</u>		
6/23/82	R. A. Mead	No	No	No	No	NA	Yes-6/23
6/28/82	J. J. Jones	Slight	No	No	No	OK	Yes-6/29
6/30/82	S. S. Smith	Yes	Yes	No	Yes	N.G.	No Pumped to tank wagon for incin- eration-7/2

AOP# 655,000

Date 7/29/82
Superseding Date NEW

OHD 005041843

UNIT BREAKDOWN

<u>STEPS</u>	<u>KEY OPERATING, SAFETY, HEALTH, ENVIRONMENTAL INSTRUCTIONS</u>
6. IF NO ORGANICS ARE INDICATED	6. <u>WEAR GLOVES AND SAFETY GLASSES.</u> OPEN DRAIN VALVE WITH WRENCH AND RELEASE CONTENTS TO SEWER.
7. POUR SAMPLE BACK INTO THE DRAIN AND IMMEDIATELY CLOSE DRAIN VALVE	7. <u>WEAR GLOVES AND SAFETY GLASSES.</u>
8. RECORD OBSERVATIONS AND RELEASE	8. USE SECONDARY CONTAINMENT RELEASE LOG.

Federal Register

**Monday
March 22, 1982**

Part VII

Environmental Protection Agency

**Hazardous Waste Management System
Standards for Owners and Operators of
Hazardous Waste Treatment, Storage and
Disposal Facilities**

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 265

[SWH-FRL 2061-4]

Hazardous Waste Management System Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities

AGENCY: Environmental Protection Agency.

ACTION: Interim final amendment to rule.

SUMMARY: On May 19, 1980, EPA promulgated regulations that would prohibit landfill disposal of containerized liquid wastes on or after November 19, 1981. On February 25, 1982, EPA issued proposed rules setting forth a new approach to restricting landfill disposal of these liquids, and extended the date for compliance with the May 19 requirement to allow time to complete this rulemaking. On March 11, 1982, EPA held a hearing to consider whether this interim suspension should be left in effect.

After considering the hearing record, EPA has decided to impose interim restrictions on landfill disposal of containerized liquid waste pending full rulemaking on the issue. Under these interim rules, no container holding free-standing liquid may be placed in a landfill. Guidance for Regional offices, states and the regulated industry to use in determining what constitutes free-standing liquid is set out later in this preamble.

DATE: This rule is effective on March 22, 1982.

FOR FURTHER INFORMATION CONTACT: The RCRA hazardous waste hotline, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, 800/424-6346 (382-3000 in Washington, D.C.) For specific information on this amendment, contact Rod Jenkins, Office of Solid Waste (WH-565), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, D.C. 20460, (202) 382-4489.

SUPPLEMENTARY INFORMATION:

I. Background

On May 19, 1980, EPA promulgated regulations which, in connection with certain earlier regulations, established most of the basic elements of the hazardous waste management program required by Subtitle C of the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. 6921 et seq. See 45 FR 33066 et seq. (May 19, 1980); 45 FR

12721 et seq. (February 28, 1980). Part 265 of those regulations sets out standards that apply to existing hazardous waste treatment, storage and disposal facilities pending their receipt of a permit setting out site-specific requirements.

Sections 265.312 and 265.314 of this Part, as originally promulgated, would have forbidden the placement in a landfill of a container holding liquid waste after November 19, 1981, with certain limited exemptions.

After this regulation was promulgated, EPA received numerous suggestions that a total ban of this nature would be impossible to comply with in practice, and would lead to difficult and avoidable problems of testing containers in the attempt to determine whether they were indeed free of liquid. Accordingly, on February 25, 1982, EPA proposed alternative methods of restricting containerized liquid wastes in landfills. Under one method, the volume of drums containing any amount of liquid wastes in a landfill would be restricted to an absolute maximum of 25% of the total landfill volume, and in most cases less than that. Under the other method, EPA proposed each container would be limited to a prescribed liquid hazardous waste content such as ten percent. 47 FR 8307. EPA also extended the date for complying with §§ 265.312 and 265.314 for 90 days to allow time for consideration of this new approach. 47 FR 8304.

On March 11, 1982, in response to two petitions for reconsideration of this extension, EPA held a public hearing to consider whether some interim control might be advisable pending full resolution of these issues in rulemaking. As a result of that hearing, EPA, preferring to err on the side of caution pending completion of its rulemaking, has decided to restrict the landfill disposal of containers with liquid waste to those containing no free-standing liquids. The reasons for that decision are set out below.

II. Basis for Decision

The great majority of participants at EPA's March 11 hearing urged EPA to impose some type of interim control requirements on the land disposal of containerized liquid wastes.

Participants at the hearing divided into two camps on the type of interim controls EPA should adopt. Representatives of generators of hazardous wastes, and of landfill operators, urged EPA to make its February 25 25% by volume proposal

immediately effective. Tr. 66-87 (National Solid Waste Management Association), 100 (Chemical Manufacturers Ass'n). Under this proposal, no more than 25% of a landfill's volume could be occupied by drums containing liquid wastes. EPA believes that in practice the actual volume of liquids disposed of would be less than half that. The 25% upper limit is a maximum that only applies to landfills that are exactly 25 feet deep; landfills shallower or deeper than 25 feet are limited to a lesser percentage. In addition, the proposal states that the full volume of any container with any liquids in it is charged against the 25% requirement. This means that, for example, a 55 gallon drum with ten gallons of liquid in it takes up 55 gallons, not ten gallons, of the allowable liquid volume.

Representatives of states, the general public, and of hazardous waste disposal facilities other than landfills urged EPA to control containerized liquids on a container-by-container basis. Tr. 36 (Hazardous Waste Treatment Council), 116 (New York State), 150 (Maryland), 162 (Association of State & Territorial Solid Waste Management Officials), 193 (League of Women Voters), 213 (NRDC), 229 (Rollins Environmental Services), 261 (CECOS Internat'l). They generally agreed, however, that it would be impractical to require a total absence of liquids in a container before it could be landfilled. Suggestions of how much liquid could properly be allowed ranged from three to ten percent. TR. 40, 69, 123, 136, 233.

The difference between these two proposals is not extreme. Though control of liquids on a drum-by-drum basis is plainly more restrictive than a 25% total limit, evidence at the hearing indicated that even the 25% approach would reduce the disposal of liquids in landfills below current levels. Tr. 89-90, 236. But see Tr. 38, 58.

Conversely, representatives of landfill operators stated that the 25% proposal was roughly equal in practical effect to a container-by-container approach with some exemption for small amounts of liquid, and that either approach was acceptable. Tr. 68-69, 84-86, 94 (National Solid Waste Management Ass'n).

III. EPA's Decision

Against this background, EPA has decided to prohibit, on an interim basis, the landfilling of containers which contain free-standing liquids. There are three reasons for this choice.

¹Tr. means the transcript of the March 11 hearing.

D-lb. Containers Without Free Liquids

A few waste streams can be considered without free liquid (WCF Nos. WOT-1, 3 6 & 15). However, they are subject to the same storage conditions on the same pad and no difference in storage management is warranted. However, the disposal of these containers is allowed in secure chemical landfills without further treatment by the disposer. In this context only is the free liquid test pertinent.

D-lb(1). Test for Free Liquids

To determine if free liquid is present, the "free standing liquid" test as described at 47 FR 12316-18 (March 22, 1982) is used. If any liquid is observed when packaging, absorbent material is added.

D-lb(2). Description of Containers

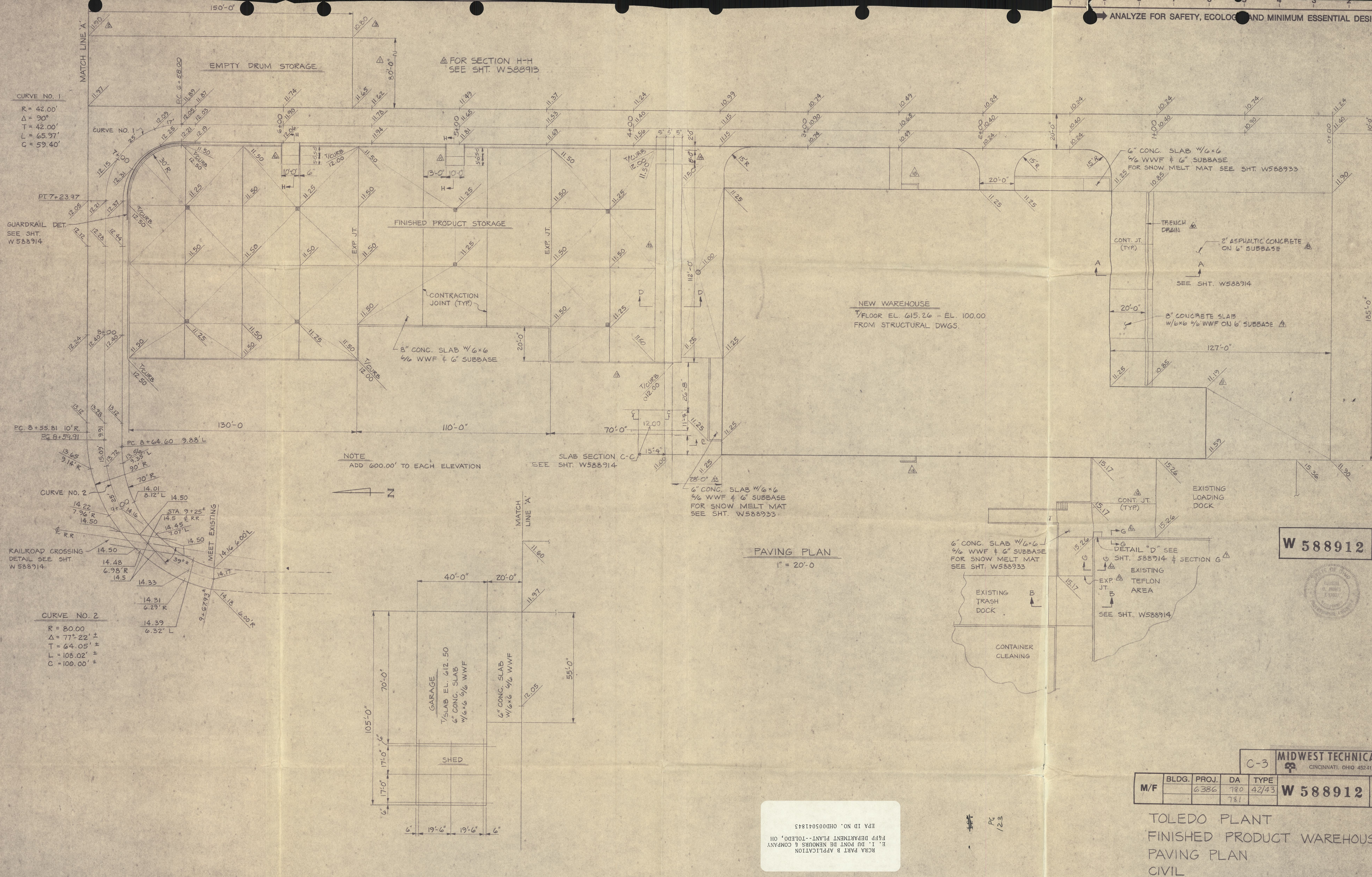
See Section D-la(1) for drum descriptions.

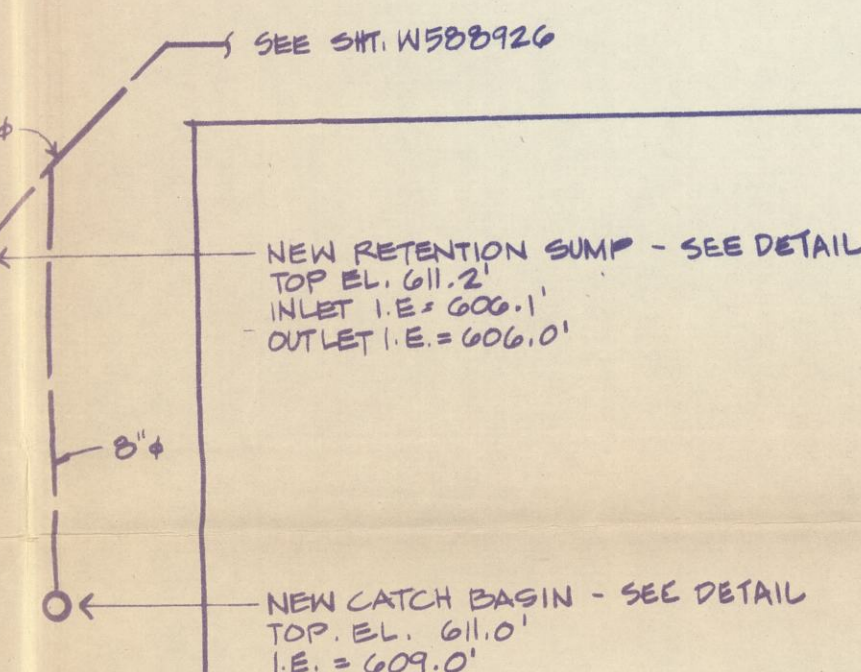
D-lb(3). Container Management Practices

These containers are managed as described in D-la(2).

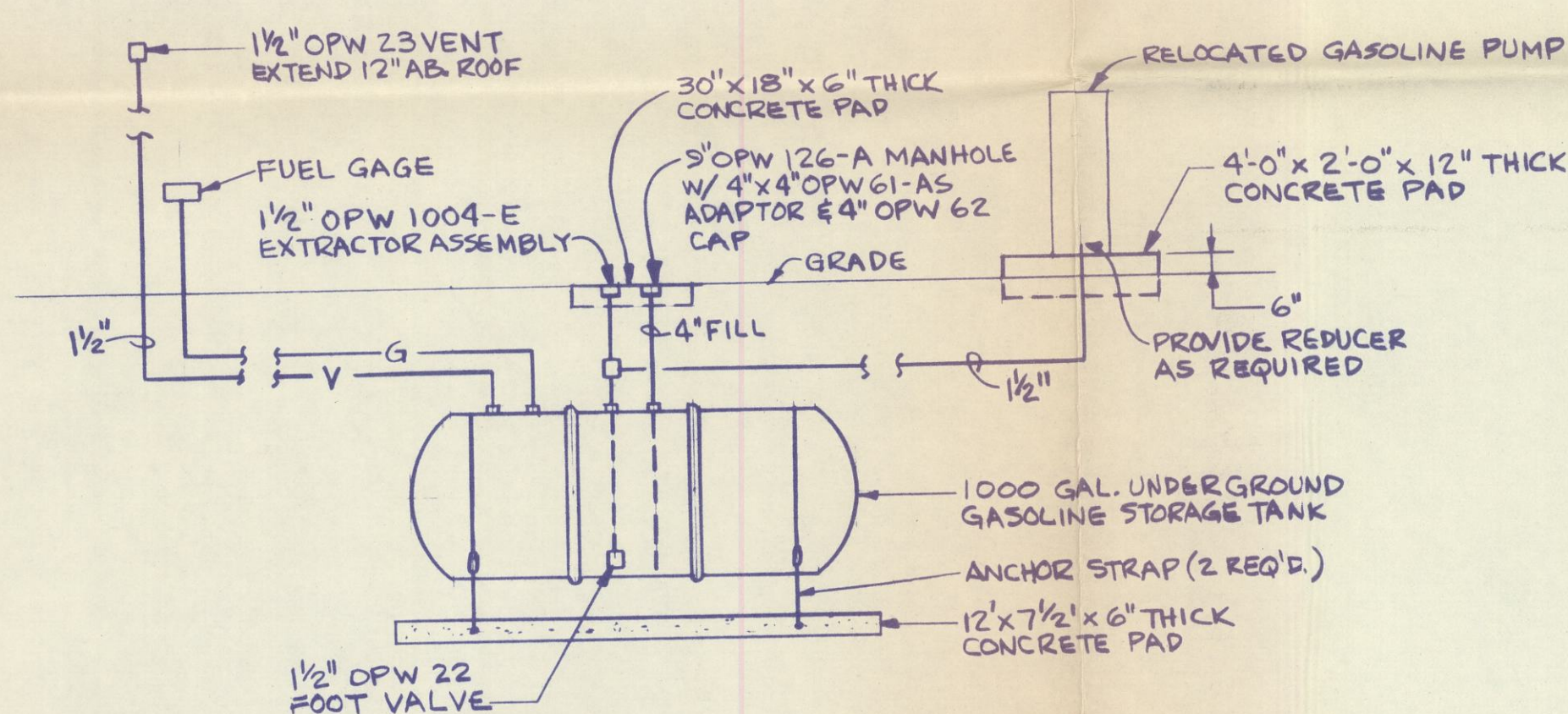
D-lb(4). Container Storage Area Drainage

These containers are on pallets in the same area as described in D-la(3) and (4).

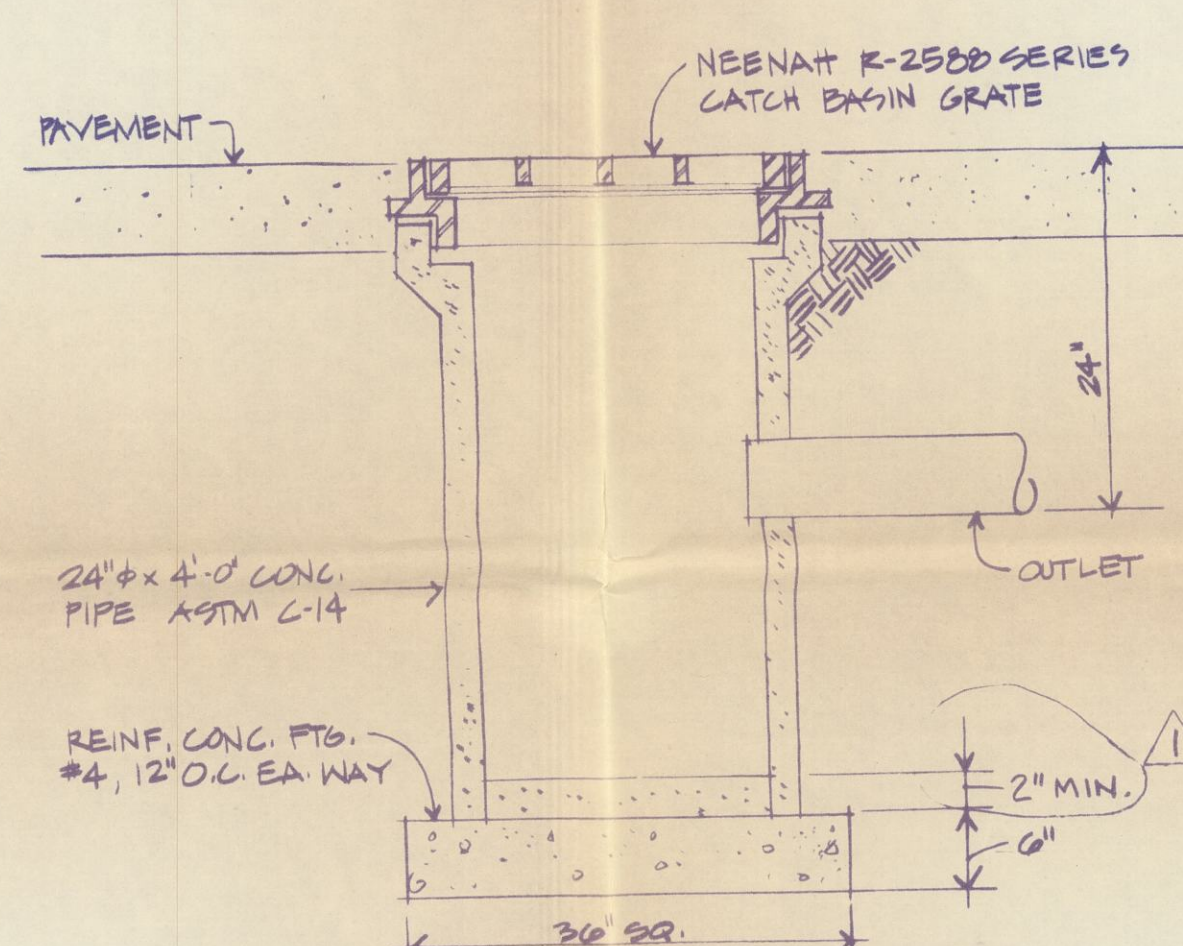
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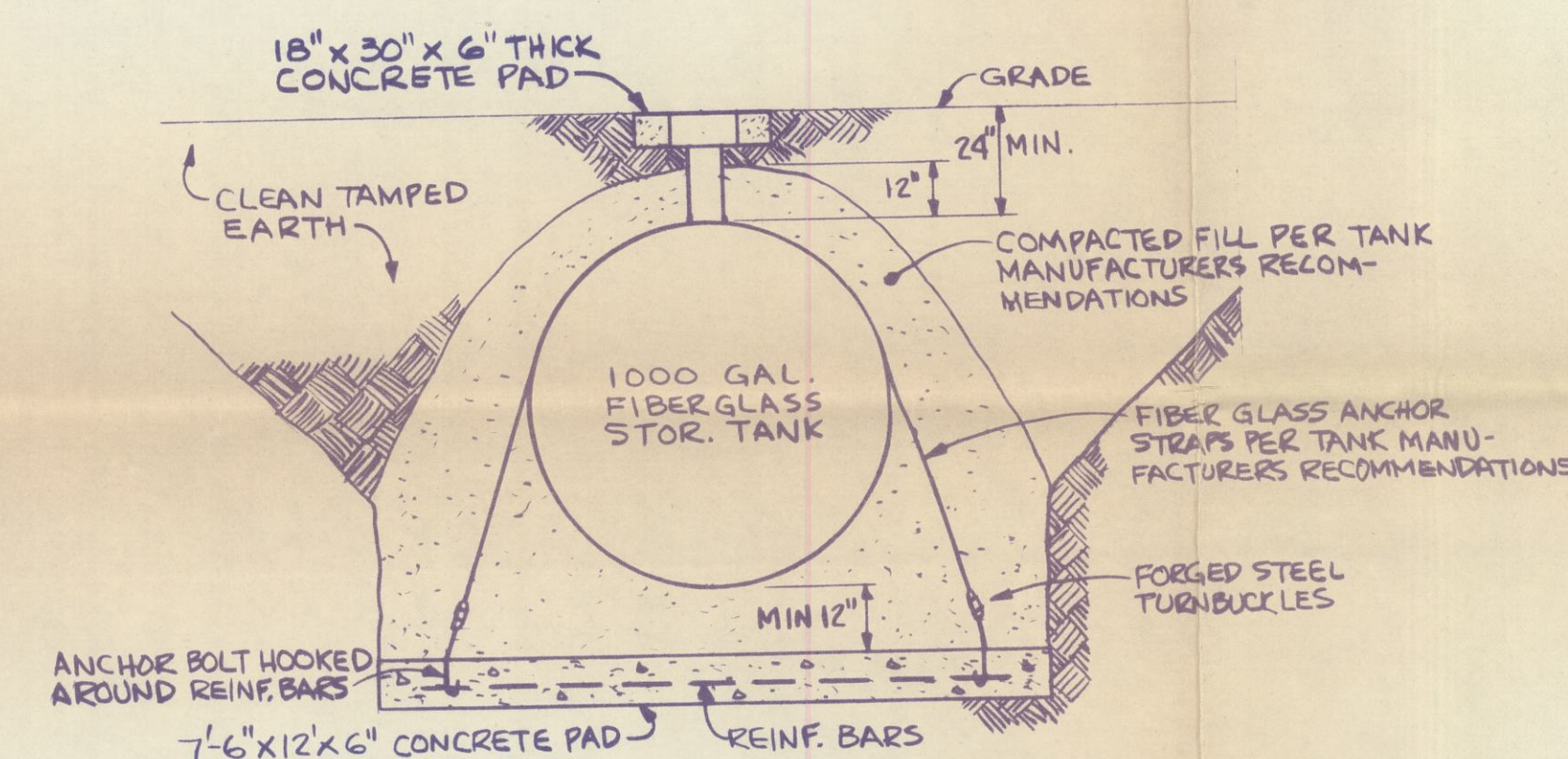
NEW WAREHOUSE
SEE GHT. W580926



RELOCATED
GARAGE



PARTIAL PLAN
SCALE 1" = 20'



STORAGE TANK DETAIL

NO SCALE

M/F	BLDG.	PROJ.	DA	TYPE	LAST REV.
		6386	789	46	

TOLEDO PLANT
FINISHED PRODUCT STORAGE PAD
STORM DRAINAGE PLAN & DETAILS
PLUMBING

[illegible]

RCRA PART B APPLICATION
E. I. DU PONT DE NEMOURS & COMPANY
F&FP DEPARTMENT PLANT--TOLEDO, OH
EPA ID NO. QHD005041843

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D-13. CONTAINERS WITHOUT FREE LIQUIDS

A FEW WASTE STREAMS CAN BE CONSIDERED WITHOUT FREE LIQUID (WCF NOS. WOT-1, 3 6 & 15). HOWEVER, THEY ARE SUBJECT TO THE SAME STORAGE CONDITIONS ON THE SAME PAD AND NO DIFFERENCE IN STORAGE MANAGEMENT IS WARRANTED. HOWEVER, THE DISPOSAL OF THESE CONTAINERS IS ALLOWED IN SECURE CHEMICAL LANDFILLS WITHOUT FURTHER TREATMENT BY THE DISPOSER. IN THIS CONTEXT ONLY IS THE FREE LIQUID TEST PERTINENT.

D-13(1). TEST FOR FREE LIQUIDS

TO DETERMINE IF FREE LIQUID IS PRESENT, THE "FREE STANDING LIQUID" TEST AS DESCRIBED AT 47 FR 12316-18 (MARCH 22, 1982) IS USED. IF ANY LIQUID IS OBSERVED WHEN PACKAGING, ABSORBENT MATERIAL IS ADDED.

D-13(2). DESCRIPTION OF CONTAINERS

SEE SECTION D-1A(1) FOR DRUM DESCRIPTIONS.

D-13(3). CONTAINER MANAGEMENT PRACTICES

THESE CONTAINERS ARE MANAGED AS DESCRIBED IN D-1A(2).

D-13(4). CONTAINER STORAGE AREA DRAINAGE

THESE CONTAINERS ARE ON PALLETS IN THE SAME AREA AS DESCRIBED IN D-1A(3) AND (4).

D-2. TANKS

ALL TANKS USED TO STORE DIRTY WASH SOLVENT (THE ONLY HW KEPT IN TANKS) ARE CARBON STEEL, NON-PRESSURIZED, ABOVE-GROUND AND HAVE PAINTED EXTERIORS. THE TYPICAL SPECIFIC GRAVITY OF THE DIRTY WASH SOLVENT IS 0.9.

THE PRIMARY DESIGN CONSIDERATIONS WERE:

0 SAFE CONTAINMENT OF IGNITABLE ORGANICS.

O PREVENTION OF PRESSURE BUILD-UP THROUGH
FLASH-ARRESTOR, CONSERVATION VENTS.

O GROUNDING OF TANKS AND PIPING.

YEARS OF PAINT MAKING EXPERIENCE HAS SHOWN US THAT STEEL TANKS ARE NOT CORRODED OR ERODED WHEN USED TO STORE ORGANIC SOLVENTS AT AMBIENT OR NEAR AMBIENT TEMPERATURES.

D-2A. DESCRIPTION OF TANKS

THE ATTACHED LIST SHOWS TANKS NUMBERED 1 THROUGH 15. HOWEVER, SEVERAL OF THESE TANKS ARE ACTUALLY COMPARTMENTS IN MULTIPLE COMPARTMENT TANKS. FOR INSTANCE, NOS. 2-6 ARE REALLY A SINGLE 5 SECTION TANK WITH A CONNECTING, EXTERNAL MANIFOLD. THE INDIVIDUAL TANK NUMBERS ARE USEFUL TO DIFFERENTIATE BETWEEN COMPARTMENTS WHEN MAINTENANCE OR SPECIAL USE INSTRUCTIONS ARE NEEDED. LIKEWISE, NOS. 7 AND 8 ARE A SINGLE, TWO COMPARTMENT TANK. A DESCRIPTIVE SHEET FOR EACH TANK (OR TANK GROUP) IS ATTACHED ALONG WITH A TYPICAL TANK SKETCH AND TWO RECOVERY FLOW CHARTS.

TANKS WERE PROBABLY DESIGNED IN ACCORDANCE TO PUBLISHED STANDARDS; HOWEVER, DOCUMENTATION OF SAME CANNOT BE FOUND. THICKNESS MEASUREMENTS ARE VISUAL INSPECTION OF THE TANKS CONDUCTED 2-10-83 BY PLANT PERSONNEL AND THE O.H.E.P.A. INDICATED THAT THESE TANKS ARE STRUCTURALLY SOUND AND HAVE THE REQUIRED SAFETY FEATURES.

THE MAXIMUM HEIGHT OF LIQUID IN THESE TANKS IS 90% OF THEIR CAPACITY. THE WASTE FEED SYSTEM IS CONTROLLED BY A MANUAL VALVE SYSTEM.

ANY HAZARDOUS WASTE SPILL IN THE HAZARDOUS WASTE STORAGE

OHD 005041843
AREA WILL BE PROMPTLY CLEAN UP AND THE AREA DECONTAMINATED.

D-2B. TANK CORROSION AND EROSION

AS INDICATED ABOVE, NO CORROSION HAS BEEN EXPERIENCED FROM ORGANICS IN THESE TANKS DUE TO THE COMPATIBILITY WITH STEEL, THE AMBIENT TEMPERATURE, ATMOSPHERIC PRESSURE AND RELATIVELY FAST TURN-OVER OF THE DIRTY WASH.

D-2C. TANK MANAGEMENT PRACTICES

DIFFERENT PRACTICES ARE USED FOR EACH TANK. THE LEVEL CONTROLS AND OPERATIONAL VARIATIONS ARE OUTLINED ON EACH OF THE TANK DESCRIPTION SHEETS. ALL TANKS ARE CLOSED SO THE FREEBOARD CONSIDERATIONS OF 264.192(B)(2) DO NOT APPLY. THE RELATIONSHIP OF THE VARIOUS HW STORAGE TANKS IS SHOWN ON THE TWO ATTACHED FLOW CHARTS:

- O SOLVENT RECOVERY
- O HEAT RECOVERY

HAZARDOUS WASTE TANK STORAGE

HW MANAGEMENT FACILITY LOCATION*	TANK NO.	LOCATION	SIZE	DESCRIPTION	DESTINATION
B	1	1ST FL., DULUX	750	COLLECTION OF DIRTY WASH SOLVENT FROM DULUX	TANKS 9 & 10
C	2		720	5 COMPARTMENT TANK;	TANK 13 USUAL- LY
	3	G AISLE	720	COLLECTION OF DIRTY	(TANK 9 & 10
	4	1ST FLOOR	720	WASH SOLVENT FROM	AS AN ALTER-
	5		720	RESIN; TANK SECTIONS,	NATE
	6		720	CAN BE ISOLATED OR WORKED AS ONE	
C	7	G AISLE	690	2 COMPARTMENT TANK;	
	8	1ST FLOOR	710	SAME USE AND DES- TINATION AS TANKS 2-6	
D	9	LYE VAT	1,150	HOLDING TANKS FOR	TANKS 11 & 12
	10	ROOM	1,200	DIRTY WASH SOLVENT FROM DULUX	
E	11	SOLVENT	860	FEED TANKS FOR THIN	EVAPORATOR
	12	RECOVERY	860	FILM EVAPORATOR (SOLVENT RECOVERY)	
F	13	BOILER HSE.	3,000	FEED TANK FOR HEAT RECOVERY	CLEAVER-BROOKS BOILER(S)
G	14**	WEST TK FARM	10,000	DIRTY WASH SOLVENT FROM FLINT FOR RECOVERY	TANKS 11 & 12
D	15	LYE VAT. RM.	1,000	DIRTY WASH SOLVENT FROM PORTABLE TANK CLEANING	TANKS 11 & 12
TOTAL GALS.			23,820		

*LOCATION A IS THE DRUM STORAGE PAD.

**PROPOSED FOR HW USE; DOES NOT HAVE INTERIM STATUS AS DO ALL OTHER TANKS LISTED.

D-2. Tanks

All tanks used to store dirty wash solvent (the only HW kept in tanks) are carbon steel, non-pressurized, above-ground and have painted exteriors.

The primary design considerations were:

- Safe containment of ignitable organics.
- Prevention of pressure build-up through flash-arrestor, conservation vents.
- Grounding of tanks and piping.

Years of paint making experience has shown us that steel tanks are not corroded or erroded when used to store organic solvents at ambient or near ambient temperatures.

D-2a. Description of Tanks

The attached list shows tanks numbered 1 through 15. However, several of these tanks are actually compartments in multiple compartment tanks. For instance, Nos. 2-6 are really a single 5 section tank with a connecting, external manifold. The individual tank numbers are useful to differentiate between compartments when maintenance or special use instructions are needed. Likewise, Nos. 7 and 8 are a single, two compartment tank. A descriptive sheet for each tank (or tank group) is attached along with a typical tank sketch and two recovery flow charts.

D-2b. Tank Corrosion and Erosion

As indicated above, no corrosion has been experienced from organics in these tanks due to the compatibility with steel, the ambient temperature, atmospheric pressure and relatively fast turn-over of the dirty wash.

D-2c. Tank Management Practices

Different practices are used for each tank. The level controls and operational variations are outlined on each of the tank description sheets. All tanks are closed so the freeboard considerations of 264.192(b)(2) do not apply. The relationship of the various HW storage tanks is shown on the two attached flow charts:

- Solvent Recovery
- Heat Recovery

-33-

HAZARDOUS WASTE TANK STORAGE

<u>HW Management Facility location*</u>	<u>Tank No.</u>	<u>Location</u>	<u>Size</u>	<u>Description</u>	<u>Destination</u>
B	1	1st Fl., Dulux®	750	Collection of Dirty Wash Solvent from Dulux®	Tanks 9 & 10
C	2		720	5 Compartment tank;	Tank 13 usual-
	3	G Aisle	720	collection of dirty	ly
	4	1st Floor	720	wash solvent from	(Tank 9 & 10
	5		720	Resin; tank sections,	as an alter-
	6		720	Can be isolated or	nate
C	7	G Aisle	690	2 compartment tank;	
	8	1st Floor	710	same use and des-	
				tination as Tanks	
				2-6	
D	9	Lye Vat	1,150	Holding tanks for	Tanks 11 & 12
	10	Room	1,200	dirty wash solvent	
				from Dulux®	
E	11	Solvent	860	Feed tanks for thin	Evaporator
	12	Recovery	860	film evaporator	
				(solvent recovery)	
F	13	Boiler Hse.	3,000	Feed tank for heat	Cleaver-Brook;
				recovery	boiler(s)
G	14**	West Tk Farm	10,000	Dirty wash solvent	Tanks 11 & 12
				from Flint for	
				recovery	
D	15	Lye Vat. Rm.	<u>1,000</u>	Dirty wash solvent	Tanks 11 & 12
				from portable tank	
				cleaning	
Total Gals.			23,820		

*Location A is the Drum Storage Pad.

**Proposed for HW use; does not have Interim Status as do all other tanks listed.

TANK NO. 1 DESCRIPTION

Label: TK1-A1, Dirty Wash Solvent Dulux®

Location: A Building, 1st Floor, commonly known as the Dulux® Building (inside).

Purpose: To collect dirty wash solvent from cleaning tanks and equipment on all 3 floors of Dulux® (does include laboratory solvent waste generated on the 2nd floor of Dulux®). Wash is eventually sent to solvent recovery (see flow sheet).

Filling: Dirty wash solvent from the upper floors is poured into hoppers on the second and third floor which runs to the tank by gravity. Dirty wash solvent from the first floor is pumped into the tank. When the tank is nearly full, a red warning light turns on at each floor. Management practices include posted restrictions on types of solvents to be added to the system.

Emptying: When nearly full, a first floor supervisor contacts the service area and determines if there is room to transfer the wash to tanks 9 and/or 10. The conical bottom allows sludge to settle out and periodically be drawn off.

Level Control: In addition to the high level warning light, the tank has an indicating level gauge.

-35-

Size: The tank has a nominal capacity of 750 gallons.

Construction: Unlined, carbon steel, welded seams; square configuration with tapered bottom for sludge collection, vented above the roof, cleaning hatch on top, grounded, (inside).

TANKS 2-6 DESCRIPTION

Labels: TK2-G1 through TK6-G1, Dirty Wash Solvent, Resin.

Location: In Aisle G, 1st Floor, Resin Area (inside).

Purpose: To collect dirty wash solvent from the resin area. This material will eventually be transferred to TK13 for heat recovery in the boiler system. During summer periods, the option of sending the resin wash to solvent recovery may be used.

Filling: Dirty wash solvent from cleaning resin manufacturing equipment is pumped to one or more sections of this tank group. Solvent from Chicago or Toledo resin wash temporarily placed in drums or portable tanks can be pumped into these tanks also.

Emptying: Solvent is normally pumped to Tank 13 in coordination with the boiler operator. It can be sent through Tanks 9, 10 and 15 like Dulux® wash if desired.

Level Control: All compartments have individual level indicators.

Size: Each compartment is 720 gallons.

Construction: Unlined, carbon steel, welded, square construction, manholes on top, vented above roof, clean-out hatches near bottom on front, grounded (inside).

TANKS 7-8 DESCRIPTION

Labels: TK7-G1 through TK8-G1, Dirty Wash Solvent, Resin.

Location, Purpose, Filling, Emptying, Size, and Construction are the same as Tanks 2-6. A single level indicator serves these two tanks by equalization. Sizes are:

- o Tank 7: 690 Gallons
- o Tank 8: 710 Gallons

TANKS 9-10 DESCRIPTION

Label: Tank 9-Bldg. 5 and Tank 10-Bldg. 5, Dirty Wash Solvent, Lye Vat.

Location: Building 5, commonly known as the Lye Vat Room (inside).

Purpose: To collect dirty wash solvent from Tank 1, Dulux® prior to sending across to the Solvent Recovery Building (Tank 10 is used to mix in additives which improve recovery operations).

Filling: Solvent is pumped from Tank 1.

Emptying: Solvent is pumped to Tank 11 or 12 (alternately as the other one is feeding evaporator at all times) by the solvent recovery operator.

Level Control: Both tanks have level indicators.

Size: Tank 9 is 1,150 gallons
Tank 10 is 1,200 gallons

Construction: Cylindrical with dished heads, unlined, carbon steel, welded seams, welded angle iron legs, vented above roof, grounded, hatch for inspection or additions on top, (inside).

TANKS 11-12 DESCRIPTION

Label: Tank 11-Bldg. 6 and Tank 12-Bldg. 6, Dirty Wash Solvent, Solvent Recovery.

Location: Building 6, commonly known as the Solvent Recovery Building (inside).

Purpose: To provide alternate feed tanks for the Artisan Thin Film Evaporator (recovers clean wash solvent for use). The evaporator is run on a continuous basis and one tanks feeds while the other is filling.

Filling: Solvent is pumped from Tanks 9, 10, 14 or 15 as needed.

Emptying: Dirty wash solvent is fed at a constant rate to the evaporator under the control of the solvent recovery operator.

Level Control: Both tanks have a level indicator and high level shut-off valve.

Size: Both tanks are 860 gallons.

Construction: Cylindrical with conical bottom, unlined, carbon steel, welded seams, welded angle iron legs, vented above roof, grounded, (inside).

TANK 13 DESCRIPTION

Label: TK13 - Bldg. 7, Dirty Wash Solvent, Boiler House.

Location: Within an earthen dike behind Building 7, commonly known as the Boiler House.

Purpose: To provide a feed tank to one or more Cleaver-Brooks package steam boilers for dirty wash solvent (non-pigmented) for fuel value recovery.

Filling: Solvent is pumped from Tanks 2-8 to Tank 13.

Emptying: Solvent is pumped to one, two, or three boilers for fuel. These boilers run straight-out with no modulation; hence, plant heat load for 150 psig steam at a given moment determines how many boilers are in use; boiler house has 8 boilers.

Level Control: Tank 13 has a high level alarm horn on the outside of the boiler house and a direct reading mercury manometer level gauge in the boiler house.

Size: The tank is 3,000 gallons.

Construction: Cylindrical, dished head, unlined carbon steel, welded seams, angle-iron welded legs, vented above the tank, grounded (outdoors in own earthen dike).

-41-

TANK 14 DESCRIPTION

Label: TK-13 Flint Dirty Wash Solvent.

Location: West Tank Farm (formerly used for a raw material, styrene monomer).

Purpose: When put into use under the RCRA storage permit, this tank will be used to receive and store tank wagons of dirty wash solvent from our Flint, MI F&FP Department paint plant. This solvent will be recovered for return to Flint as clean wash solvent.

Filling: The tank has its own unloading spot for tank wagons.

Emptying: Dirty wash solvent will be pumped to either Tank 11 or 12 in Bldg. 6 by the Solvent Recovery operator.

Level Control: A direct reading level gauge is in Bldg. 6.

Size: The tank is 10,000 gallons.

Construction: Cylindrical, dished head, carbon steel, insulated, on angle iron legs in own concrete (wall and floor) dike with sump pump for precipitation removal, vented, grounded (outside).

TANK 15 DESCRIPTION

Label: Tank 15-Bldg. 5, Dirty Wash Solvent, Lye Vat.

Location: Bldg. 5, commonly known as the Lye Vat Room.

Purpose: To collect dirty wash solvent bound for recovery which was generated in the adjacent room by cleaning portable paint/resin tanks. Occasionally, this tank is used as a backup to Tanks 9 & 10.

Filling: Tank is visually checked for head room. Portable tank cleaning operator starts pump in adjacent room to pump out his small circulating tank. A high level interlock on Tank 15 prevents the pump from operating when the tank approaches full.

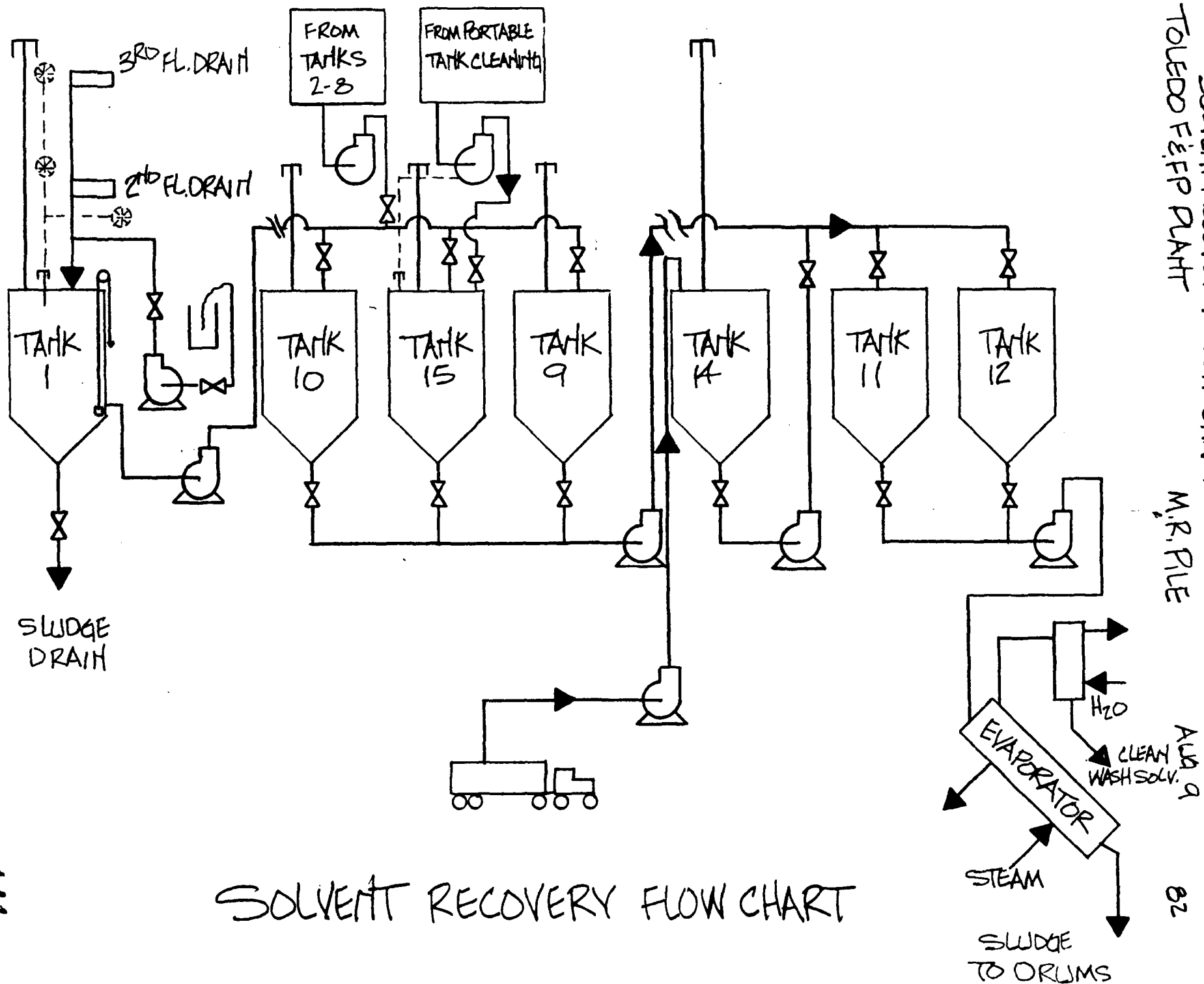
Emptying: Solvent is pumped to Tanks 11 or 12 in Solvent Recovery as needed (by solvent recovery operator).

Level Control: (See Filling).

Size: The tank is 1,000 gallons.

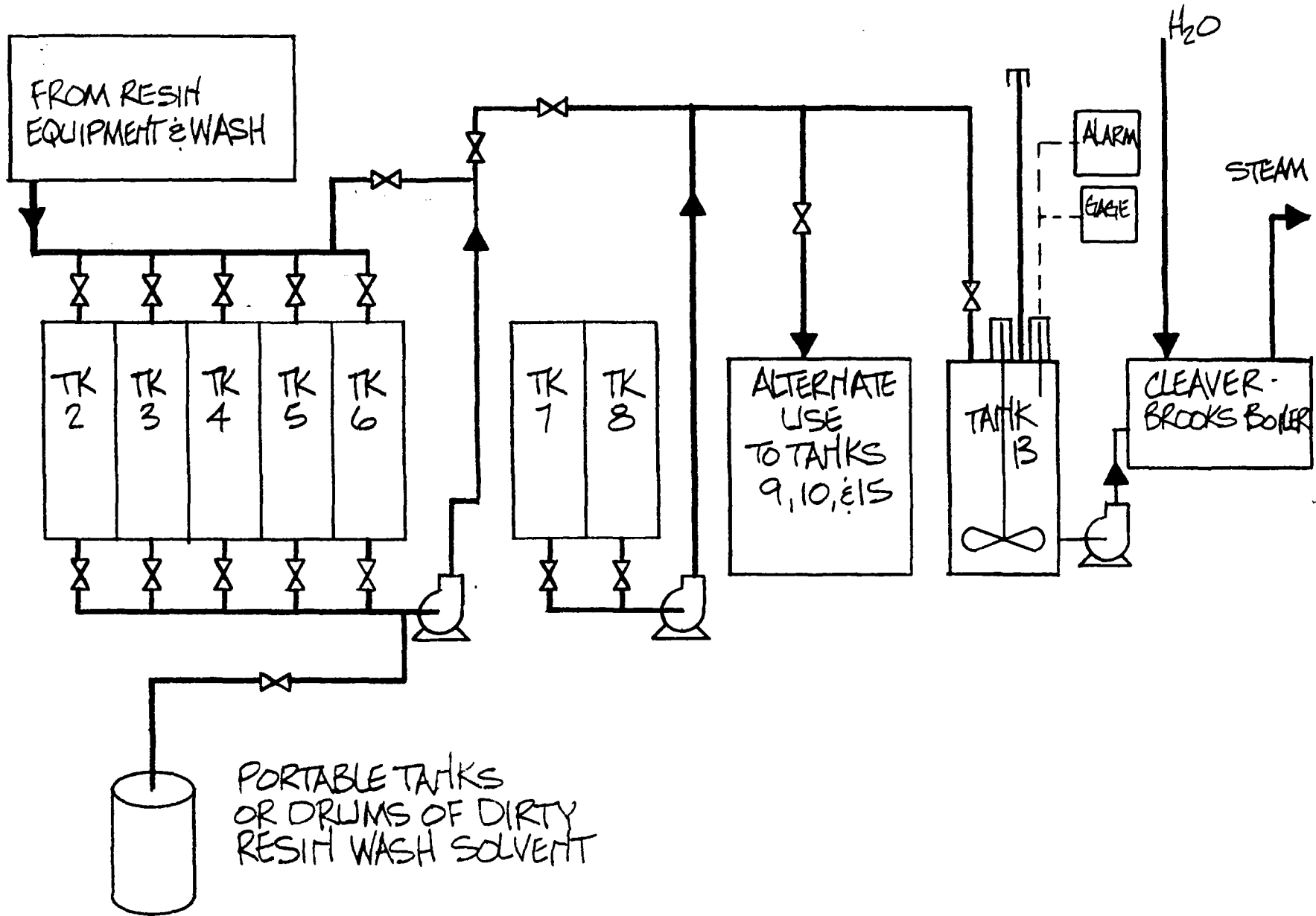
Construction: Cylindrical, dished head, unlined, carbon steel, welded seams, on welded angle iron legs, hatch for observation or cleaning in top head, grounded, vented above the roof (inside).

RCRA REPORT OHDD05041843
 SOLVENT RECOVERY FLOW CHART
 TOLEDO E&P PLANT
 M.R. FILE

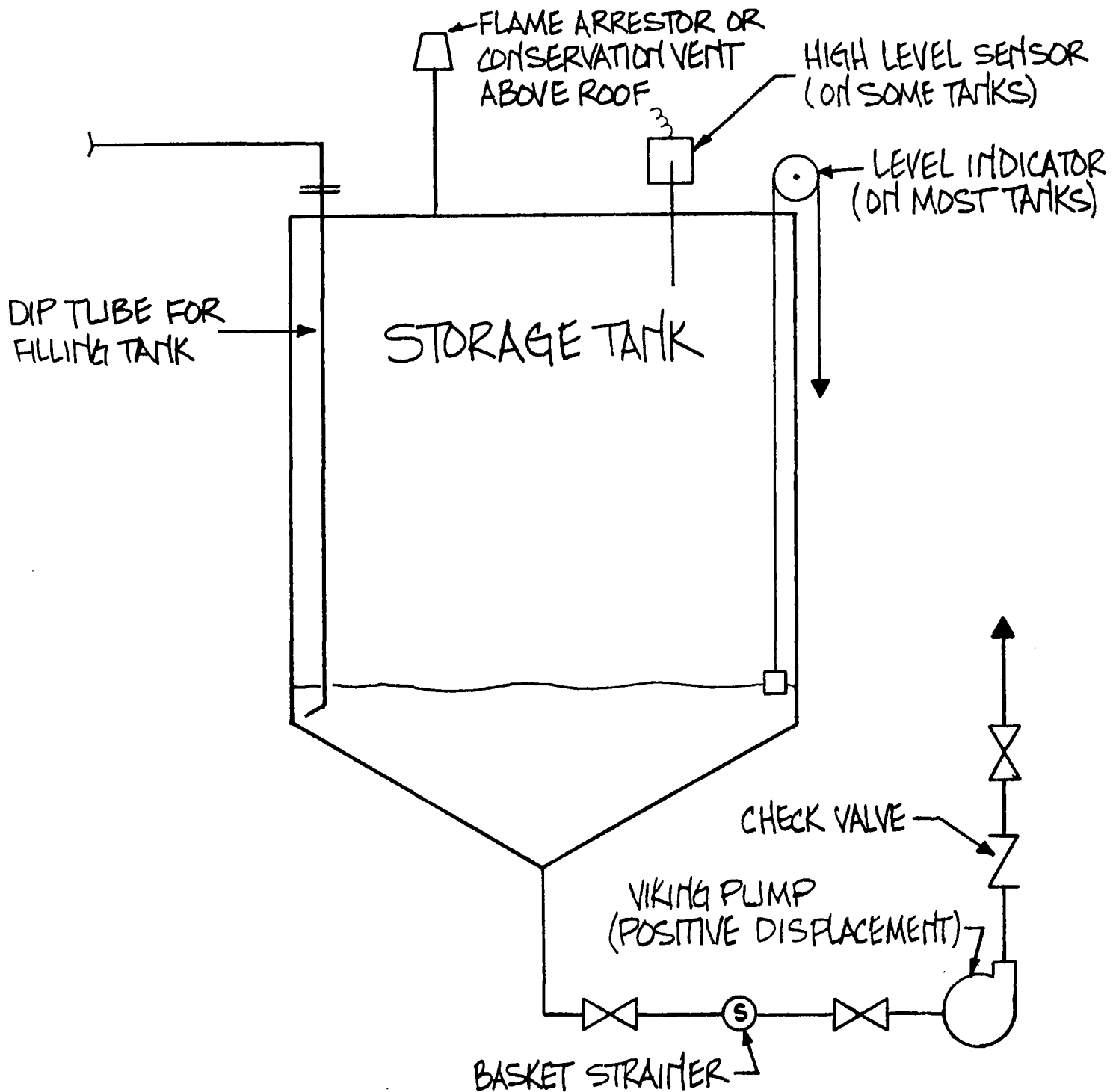


SOLVENT RECOVERY FLOW CHART

HEAT RECOVERY FLOW SYSTEM



RCRA REPORT OHDD005041843
 HEAT RECOVERY FLOW SYSTEM
 TOLEDO F&P PLANT
 MR. FILE
 AUG 6
 82



TYPICAL STORAGE TANK

E. GROUND WATER MONITORING

This Section will not be applicable to this facility.

F. PROCEDURES TO PREVENT HAZARDS

The HWM facility is an integral part of an existing manufacturing site which for decades has been devoted to worker protection and property preservation through safety and fire prevention programs, security, maintenance and design. The establishment of a RCRA storage facility on the site has not changed any of the ongoing programs to prevent hazards--with the exception of adding an introduction to RCRA portion to employee training. Thus, the previously established programs for emergency response, spill control, safety meetings and training, equipment maintenance and inspection etc. have not been altered for RCRA compliance. Instead these active plans have been described in the appropriate sections that follow.

It is important to note that Du Pont's outstanding safety and fire prevention record--among the best in an industry that is better than average--has been accomplished through many site-wide programs that allow few exceptions to rules. For instance, carrying of lighters and matches in this plant is prohibited--the penalty is discharge. Smoking is allowed only in specific lunch room/office areas using installed electric lighters. Thus, there is no reason for redundant "No Smoking" signs at HWM facility operations.

F-1. SECURITY

The storage of our hazardous wastes in the HWM facility contained within this plant site poses no injury potential to humans or livestock even if they could gain access to the site. The reasons for this were covered in Sections B-1 and C-2a. In summary,

- There is no acutely hazardous wastes which would pose an injury potential, and
- The wastes are all enclosed in secure DOT containers or in steel tanks.

However, both recommended provisions for perimeter security are provided in addition to the lack of injury potential from this simple storage facility.

F-1a. Security Procedures and EquipmentF-1a(1). 24-Hour Surveillance System

The site is under continuous surveillance 24-hours a day, 7 days a week by plant guards. In addition, operating personnel are present on the site for 24-hours a day during week days (except holidays).

F-1a(2)(a). Barrier and Means to Control Entry

The plant is surrounded by a 6 foot high chain link fence, above which are 3 angled strands of barbed wire. All gates are kept locked except when under direct visual surveillance by guards or other plant personnel.

F-1a(2)(b). Means to Control Entry

Guards maintain control of all entry and exit from the site--both pedestrian and vehicles. Vehicles need valid shipping papers or other identification. Visitors are

-46-

required to sign the register, give up all matches and lighters and be escorted into the site by plant personnel.

F-1a(3). Warning Signs

For reasons outlined in F-1a(1) and (2), the signs are not required under Section 264.14(c).

F-1b. Waiver

The nature of our waste and secure containment in drums and tanks (plus the added perimeter security system) demonstrates that there is no injury potential to outside persons and that they would not be able to cause permit violations as is specified in Section 264.14(a)(1) and (2). Thus, the warning signs described in Section 264.14(c) are not required and a waiver is requested.

F-2. INSPECTION SCHEDULEF-2a. General Inspection Requirements

The inspection at the site fall into three categories:

- Drum Pad
- Tanks
- Emergency Equipment

The emergency equipment inspection schedule pre-dates RCRA and is documented in plant Procedure #44. The complete Inspection Plan (including Procedure #44) is included at the end of this section (F-2). Fire equipment inspection is also detailed in Sections B-9e & C of the Preparedness and Prevention Plan (PPP). The PPP is part of the Contingency Plan - Section G.

F-2a(1). Types of Problems

The types of problems to be checked are outlined in Section C of the Inspection Plan.

F-2a(2). Frequency of Inspection

The inspection frequency for the drum pad and tanks is weekly (see Inspection Plan - Section B). The inspection of safety items is indicated in Procedure #44 and the plant's computerized inspection/tickler schedule (sample attached to Procedure #44).

The tanks are in operating areas where many operators and supervisors observe them around the clock when the plant is operating. The guards make rounds during shutdowns to look for abnormal conditions (leaks, etc.). The presence of these employees is a secondary, informal, daily inspection which reenforces the formal, weekly inspection.

F-2b. Specific Process Inspection RequirementsF-2b(1). Container Inspection

The weekly inspection of the containers in storage is documented on the inspection log form as outlined in Section D of the Inspection Plan.

F-2b(2). Tank Inspection

As outlined in Sections C-2 of the Inspection Plan, weekly inspections are logged for the tanks (as a group). Since the tanks have employee attendance and surveillance when in use, as described in F-2a(2) above, no formal log is kept of these daily observations.

F-2b(2)(a). Tank Construction Materials

The tanks are all carbon steel, which is not corroded by the organics contained in them (see Section B-1 and D-2 above). All tanks are completely above ground (most are inside) and are checked for deterioration and leaks weekly per the Inspection Plan (Sections B and C2).

F-2b(2)(b). Tank Surrounding Area

The inspection referenced in the previous paragraph includes the surrounding area.

F-2b(2)(c). Tank Overfilling Control Equipment

The tanks have level gages and/or high level alarms which are observed daily when the equipment is in operation (see F-2a(2)). No danger exists to humans or the environment, except ignition (See B-1), even if the level equipment should allow overflow some spent solvent. Our spill plan and normal practices would more than adequately

cope with this danger potential. Inspection of the level controls/devices by operating personnel is done every day.

F-2b(2)(d). Tank Monitoring Data

Our tanks have no other monitoring equipment. Therefore, no data are taken. All tanks are grounded and vented to the atmosphere via flame arrestor/conservation vents.

F-2b(2)(e). Tank Level of Waste

This requirement for uncovered tanks is not applicable to our closed tanks.

F-2b(2)(f). Tank Condition Assessment

Visual inspection during operation and at the time of repainting--coupled with a lack of leaks--will suffice to assess these tanks as in good condition. Should indication of external corrosion or leakage be uncovered by operator or mechanics, a thorough assessment of the tank's condition would be made (empty, clean, examine inside and out, hydrostatic test and, if necessary, an evaluation of metal thickness).

F-2b(2)(g). Tank Interim Inspection

Since there is little or no motion in these tanks, no erosion is anticipated. The spent solvents are not corrosive to the tanks and no interior deterioration is anticipated. The solvent liquid and saturated vapor effectively prevent any rusting of the interiors from ambient air moisture. These assumptions have been borne out by years of use of this construction tanks for raw material, intermediate and finished product storage in solvent-based paint production.

F-2c. Remedial Action

The action to be taken for specific conditions found during formal inspection or employee observations are outlined in Section D-4 of the Inspection Plan.

F-2d. Inspection Log

A blank of each Inspection Log is included in the Inspection Plan. A sample of one page of a log is attached. The balance of the logs are on file at the site and are maintained for three years (See Section D-3 of the Inspection Plan).

OHD 005041843

INSPECTION OF THE LEVEL CONTROLS/DEVICES BY OPERATING PERSONNEL IS DONE EVERY DAY.

E-2B(2)(D). TANK MONITORING DATA

OUR TANKS HAVE NO OTHER MONITORING EQUIPMENT. THEREFORE, NO DATA ARE TAKEN. ALL TANKS ARE GROUNDED AND VENTED TO THE ATMOSPHERE VIA FLAME ARRESTOR/CONSERVATION VENTS.

E-2B(2)(E). TANK LEVEL OF WASTE

THIS REQUIREMENT FOR UNCOVERED TANKS IS NOT APPLICABLE TO OUR CLOSED TANKS.

E-2B(2)(F). TANK CONDITION ASSESSMENT

VISUAL INSPECTION DURING OPERATION AND AT THE TIME OF REPAINTING--COUPLED WITH A LACK OF LEAKS--WILL SUFFICE TO ASSESS THESE TANKS AS IN GOOD CONDITION. SHOULD INDICATION OF EXTERNAL CORROSION OR LEAKAGE BE UNCOVERED BY OPERATOR OR MECHANICS, A THOROUGH ASSESSMENT OF THE TANK'S CONDITION WOULD BE MADE (EMPTY, CLEAN, EXAMINE INSIDE AND OUT, HYDROSTATIC TEST AND, IF NECESSARY, AN EVALUATION OF METAL THICKNESS).

E-2B(2)(G). TANK INTERIM INSPECTION

SINCE THERE IS LITTLE OR NO MOTION IN THESE TANKS, NO EROSION IS ANTICIPATED. THE SPENT SOLVENTS ARE NOT CORROSIVE TO THE TANKS AND NO INTERIOR DETERIORATION IS ANTICIPATED. THE SOLVENT LIQUID AND SATURATED VAPOR EFFECTIVELY PREVENT ANY RUSTING OF THE INTERIORS FROM AMBIENT AIR MOISTURE. THESE ASSUMPTIONS HAVE BEEN BORNE OUT BY YEARS OF USE OF THIS CONSTRUCTION TANKS FOR RAW MATERIAL, INTERMEDIATE AND FINISHED PRODUCT STORAGE IN SOLVENT-BASED PAINT PRODUCTION.

E-2C. REMEDIAL ACTION

THE ACTION TO BE TAKEN FOR SPECIFIC CONDITIONS FOUND DURING FORMAL INSPECTION OR EMPLOYEE OBSERVATIONS ARE OUTLINED IN SECTION D-4 OF THE INSPECTION PLAN.

E-2D. INSPECTION LOG

A BLANK OF EACH INSPECTION LOG IS INCLUDED IN THE INSPECTION PLAN. A SAMPLE OF ONE PAGE OF A LOG IS ATTACHED. THE BALANCE OF THE LOGS ARE ON FILE AT THE SITE AND ARE MAINTAINED FOR THREE YEARS (SEE SECTION D-3 OF THE INSPECTION PLAN).

E-3. WAIVER OF PREPAREDNESS AND PREVENTION REQUIREMENTS

NO WAIVER IS SOUGHT SINCE THE PLANT SITE FACILITIES ARE ADEQUATE TO MEET ANY SITUATION RESULTING FROM THE STORAGE OF IGNITABLE HW AND DO MEET THE STATUTORY REQUIREMENTS OF 40 CFR 264.32.

E-3A. EQUIPMENT REQUIREMENTS

THE SITE MEETS ALL OF THE REQUIREMENTS BELOW:

E-3A(1). INTERNAL COMMUNICATION

THE PLANT HAS A 14-BOX GMEWELL DOUBLE LOOP, FIRE ALARM SYSTEM, WITH SITE-WIDE, CLEARLY AUDIBLE HORN/BELL SIGNALS. WHEN ACTIVATED, THE SYSTEM RINGS THE LOCATION CODE OF THE BOX PULLED. THE PLANT SUPERVISORY AND MANAGEMENT PERSONNEL REGULARLY USES A RADIO SYSTEM CONSISTING OF:

- O A BASE STATION AT THE GUARD HOUSE
- O 19 HAND-HELD TWO-WAY RADIOS WHICH CAN CALL EACH OTHER AND THE BASE STATION.
- O 22 PAGERS WHICH CAN ONLY RECEIVE A VERRAL MESSAGE FROM THE BASE STATION.

THIS RADIO SYSTEM IS AN INTEGRAL PART OF THE PLANT'S RAPID RESPONSE TO ANY EMERGENCY SITUATIONS ON THE SITE. THE PLANT SITE ALSO HAS A TELEPHONE SYSTEM WITH INTERVAL 3-DIGIT DIALING FROM ABOUT 120 PHONES.

E-3A(2). EXTERNAL COMMUNICATIONS

MOST CALLS OF AN EMERGENCY NATURE WOULD BE MADE BY THE GUARDS ON DUTY EVERY DAY, AROUND-THE-CLOCK AT THE MAIN GATE HOUSE. THEY HAVE AN EXTENSIVE PROCEDURES BOOK ("SECURITY MANUAL") WHICH COVERS ALL ASPECTS OF PERIMETER SURVEILLANCE, ACCESS RESTRICTIONS, AND EMERGENCY RESPONSES (SEE INDEX ATTACHED). TO REDUCE ERRORS AND SPEED RESPONSE, A "SPEED CALL-IN" SYSTEM ALLOWS TWO-DIGIT, FOUR-SECOND DIALING OF PERSONS WHO MIGHT BE NEEDED IN AN EMERGENCY (FIRE, POLICE, HOSPITALS, EMERGENCY COORDINATOR, CITY OF TOLEDO MANAGEMENT, ETC.). FOR EXAMPLE, TO DIAL THE FIRE DEPARTMENT REQUIRES YOU PUSH *,2,D.

ANY DROP IN FIRE SYSTEM PRESSURE CAUSED BY OPENING A HYDRANT, FIRE SYSTEM BREAKAGE OR SPINKLER ACTIVATION WILL GIVE AN ALARM, TO AMERICAN DISTRICT TELEGRAPH (ADT). ADT WOULD NOTIFY THE GUARD HOUSE IMMEDIATELY AND/OR THE CITY FIRE DEPARTMENT.

IN ADDITION AS A BACKUP, A LARGE PERCENTAGE OF THE TELEPHONES ON THE SITE CAN DIAL OUTSIDE ("9") AND REACH EMERGENCY NUMBERS LISTED ON THE INSIDE OF TOLEDO PHONE DIRECTORY.

E-3A(3). EMERGENCY EQUIPMENT

A DETAILED LIST OF FIRE FIGHTING EQUIPMENT (OVER 200 HAND EXTINGUISHERS PLUS FIREHOSES, DELUGE GUNS, FOAM GENERATORS, ETC.) AVAILABLE TO EMPLOYEE FIRE BRIGADES (ONE ON EVERY SHIFT) AND COMPATIBLE WITH CITY OF TOLEDO FIRE DEPARTMENT EQUIPMENT IS GIVEN

OHD 005041843

IN THE ATTACHED PREPAREDNESS AND PREVENTION PLAN (PPP).

E-3A(4). WATER FOR FIRE CONTROL

SUFFICIENT WATER IS AVAILABLE FOR THE FIRE SYSTEM DESCRIBED IN THE PPP. A DIESEL FIRE PUMP CAN DELIVER 1,500 GPM OF WATER AT 125 PSIG PRESSURE FOR OPERATING THE HOSE SYSTEM, SPRINKLERS AND FOAM GENERATING EQUIPMENT. THERE ARE TWO WATER STORAGE FACILITIES WITH 130,000 GALLONS OF CAPACITY ONSITE (SEE PPP SECTION 3-7).

E-3B. AISLE SPACE REQUIREMENT

ALL HW STORAGE UNITS ARE ACCESSIBLE BY FIRE BRIGADE/FIRE DEPARTMENT VEHICLES AND PERSONNEL AT ALL TIMES.

E-4. PREVENTIVE PROCEDURES, STRUCTURES AND EQUIPMENT

SEVERAL EXISTING PLANT PROCEDURES ARE IN THE PPP AND ARE APPLICABLE TO THIS SECTION. AGAIN, AS DISCUSSED IN B-1 AND F (INTRODUCTORY PARAGRAPHS), THE ENTIRE SPECTRUM OF RAW MATERIALS, INTERMEDIATES, FINISHED PRODUCTS AND WASTES ON THIS SITE REQUIRE HANDLING AS IGNITABLE, HAZARDOUS MATERIALS. NO SPECIAL PROCEDURES, STRUCTURES OR EQUIPMENT ARE USED FOR HW.

E-4A. UNLOADING OPERATION

ANY DRUMS OF HW RECEIVED OR HANDLED FROM GENERATING OPERATIONS ON SITE ARE HANDLED ON PALLETS BY OUTSIDE FORK TRUCKS WITH DRIVER PROTECTION OVERHEAD GUARDS, FLASHING LIGHTS, BACK-UP ALARM, ETC. STANDARD PRACTICE NO. 45 COVERS FORK TRUCK PRACTICES.

E-4B. RUN-OFF

THE TANKS, WITH THE EXCEPTION OF NUMBERS 13 AND 14, ARE INSIDE OPERATING BUILDINGS AND HAVE NO RUN-OFF. TANKS 13 AND 14 ARE LOCATED IN INDIVIDUALLY DIKED AREAS WHERE CONTAMINATED RUN-OFF

CAN BE CONTAINED AND PUMPED-OUT. THE CONTAINER STORAGE PAD HAS ITS OWN DIKE, RETENTION BASIN AND RELEASE VALVE TO CONTAIN RUN-OFF PRIOR TO TESTING, AS DESCRIBED IN SECTION D-1A(3)&(4).

E-4C. WATER SUPPLIES

THE PLANT HAS NO NEARBY WATER SUPPLIES WHICH NEED MEASURES TO PREVENT CONTAMINATION. TWO ON-SITE WELLS ARE USED ONLY FOR COOLING WATER (NOT POTABLE). THE WATER IN NPDES OUTFALLS F216001 AND F216002 IS MONITORED BY DAILY GRAB SAMPLES. OUTFALLS 001 AND 002 LEAVE THE SITE BY COMMON PIPE AFTER JOINING A CITY STORM SEWER WHICH CROSSES THE PLANT.

E-4D. EQUIPMENT AND POWER FAILURE

A POWER OUTAGE WILL HAVE NO IMPACT ON THE SAFETY OF THIS SITE. THE FIRE MAIN SYSTEM HAS A DIESEL OPERATED FIRE PUMP REQUIRING NO POWER FOR OPERATION. AN UNEXPECTED ELECTRICAL SHUT-DOWN WILL HAVE NO IMPACT ON THE PUMPING OF SPENT WASH SOLVENT, EXCEPT FOR TEMPORARY CESSATION OF TRANSFER OPERATIONS. THE ONLY EQUIPMENT ACTIVELY INVOLVED IN THE HANDLING OF CONTAINERIZED IS FORK LIFT TRUCKS. TWENTY-ONE TRUCKS ARE AVAILABLE ON THE SITE, ALLOWING SPARES TO BE UTILIZED FOR THE HANDLING OF HW.

E-4E. PERSONNEL PROTECTIVE EQUIPMENT

OUR SAFETY AND INDUSTRIAL HYGIENE PROGRAM MEETS OR EXCEEDS OSHA REQUIREMENTS IN EVERY ASPECT OF WORKER SAFETY. THE USE OF COMPANY SUPPLIED PERSONAL PROTECTIVE EQUIPMENT IS MANDATORY FOR TASKS WHICH OTHERWISE WOULD POSE A RISK TO EMPLOYEES. THE ENTIRE HW FACILITY IS A SAFETY GLASSES AREA. SAFETY SHOES, RESPIRATORS (OR AIR-SUPPLIED MASKS), GLOVES, HARD HATS, AND FACE SHIELDS ARE EXAMPLES OF SAFETY EQUIPMENT USED ON THIS SITE. AS

NOTED PREVIOUSLY, HANDLING OF HW IS NOT A NEW HAZARD TO OUR EMPLOYEES--ALL THE CONSTANT SAFETY EFFORT FOR THE REGULAR MATERIALS WE USE APPLIES TO OUR HW ALSO.

E-5. PREVENTION OF REACTION OF IGNITABLE, REACTIVE & INCOMPATIBLE WASTES

AS INDICATED EARLIER, ALMOST ALL THE MATERIALS ON THE PLANT (RAW MATERIAL, INTERMEDIATES, FINISHED PRODUCTS AND WASTES) ARE IGNITABLE AND NO NEW PRECAUTIONS OR PROCEDURES ARE NECESSARY DUE TO RCRA HW REGULATIONS. WE NORMALLY HAVE NO REACTIVE WASTES. THE EXCEPTION IS THE UNREACTED/PARTIALLY REACTED MONOMER (WOT-8) WASTE STREAMS. ONLY A FEW DRUMS HAVE BEEN GENERATED SINCE RCRA WENT INTO EFFECT IN 1980. THE MATERIAL IS CHEMICALLY INHIBITED FOR STABILIZATION, DRUMED AT ITS GENERATION POINT, LABELLED AND DISPOSED OF OFF-SITE BY CONTRACT INCINERATION PROMPTLY WITHOUT MIXING WITH OTHER WASTES.

E-5A. PRECAUTIONS TO PREVENT IGNITION OR REACTION OF IGNITABLE OR REACTIVE WASTE

AS DESCRIBED IN SECTION B-1 AND THE INTRODUCTORY PARAGRAPHS OF SECTION F, THE ENTIRE SITE IS CONTROLLED FOR IGNITION SOURCE THROUGH SMOKING AREA RESTRICTION, "NO MATCHES/LIGHTERS" POLICY, WELDING/BURNING PERMIT SYSTEM AND CONTINUAL SAFETY TRAINING OF ALL PERSONNEL. SPECIFICALLY, THESE PRECAUTIONS ARE TAKEN:

- O NO MATCHES OR LIGHTERS MAY BE CARRIED BY ANYONE ON THEIR PERSON, ANYWHERE ON THE ENTIRE PLANT SITE (EXCEPT IN THE FOR BURNING PERMIT SITUATIONS IF NEEDED). PENALTY FOR EMPLOYEES IS DISCHARGE; FOR

CONTRACTORS AND VISITORS IT IS EXPULSION FROM THE SITE.

- 0 THE USE OF ANY FLAME-PRODUCING OR IGNITION SOURCE (WELDING, CUTTING, BURNING, ETC.) REQUIRES THE ISSUANCE OF A "BURNING PERMIT". THE PROCEDURE FOR OBTAINING THE PERMIT REQUIRES AN ON-THE-SPOT INSPECTION AND THE SIGNATURE OF THE MAINTENANCE SUPERVISOR OF MECHANIC DOING THE WORK, AREA SUPERVISOR WHERE THE WORK IS BEING DONE, AND THE FIRE CHIEF. IT ALSO REQUIRES CAREFUL SELECTION OF PROPER FIRE PREVENTION PRECAUTIONS AND ESTABLISHMENT OF A FIRE WATCH (ADDITIONAL PERSON WITH ADEQUATE FIRE EXTINGUISHER IN HAND). THE PERMIT HAS A FINITE LIFE TIME--USUALLY ONLY ONE SHIFT (REFERENCE: STANDARD PRACTICE V-11, PERMITS FOR USE OF OPEN FLAME AND ELECTRIC TOOLS).
- 0 THE ENTIRE PLANT IS GROUNDED TO PREVENT STATIC BUILD-UP AND DISCHARGE (INCLUDING BUILDING FRAMES AND FIXED EQUIPMENT). ALL PORTABLE EQUIPMENT USAGE AND IGNITABLE LIQUID TRANSFERS REQUIRES GROUNDING BY SPECIAL CLAMPS AND/OR GROUNDED ELECTRICAL PLUGS. IN PRODUCTION AREAS, USE OF ELECTRICAL TOOLS ALSO REQUIRES A PERMIT (AGAIN SEE STANDARD PRACTICE V-11).
- 0 SMOKING IS PERMITTED IN CERTAIN AREAS INSIDE THE PLANT (SUCH AS FRONT OFFICE, CAFETERIA, SOME CONFERENCE ROOMS, ETC.) BY PROVIDING ELECTRICAL LIGHTERS TO PREVENT NON-INTENTIONAL CARRYING OF

MATCHES/LIGHTERS BACK TO THE WORKPLACE.

- o THE NO-SMOKING/FIRE PREVENTION THEME IS REPEATEDLY USED IN FREQUENT EMPLOYEE SAFETY MEETINGS. IT IS AN INTEGRAL PART OF ALL CONTRACTS WITH NON-EMPLOYEES FOR WORK TO BE DONE ON THE SITE AND PART OF WEEKLY SAFETY INSPECTIONS AND MANAGEMENT AUDITS.

E-5B. GENERAL PRECAUTIONS FOR HANDLING IGNITABLES OR REACTIVE WASTE AND MIXING OF INCOMPATIBLE WASTE

THE MAKING OF PAINT IS ESSENTIALLY A MIXING PROCESS. ALL PAINT INGREDIENTS IN THE WASTES MAY BE MIXED FOR STORAGE SINCE THEY ARE COMPATIBLE. CERTAIN RAW MATERIALS USED IN RESIN PRODUCTION ARE NOT COMPATIBLE AND WILL REACT. HOWEVER, THESE ITEMS ARE NOT NORMALLY IN OUR WASTE STREAMS. IF A SITUATION INVOLVING MISCHARGED INGREDIENTS OR A SPILL OF THESE MATERIALS IS ENCOUNTERED, THEY ARE NEVER PUT IN ANY OF THE SPENT WASH SOLVENT TANKS BUT ALWAYS INTO CLEAN DRUMS AND MARKED WITH THEIR CONTENTS. THE SOLID WASTE COORDINATOR THEN IS CONTACTED TO ARRANGE FOR SUITABLE, SAFE DISPOSAL BY OFF-SITE CONTRACTORS.

E-5C. MANAGEMENT OF IGNITABLE OR REACTIVE WASTES IN CONTAINERS

THE SITE HANDLES NO REACTIVE WASTES. THE CONTAINERS ON THE STORAGE PAD ARE A MINIMUM OF 400 FEET FROM THE SITE PROPERTY LINE. SHOULD A REACTIVE WASTE BE GENERATED FROM SOME FUTURE UNUSUAL OCCURANCE, IT WOULD BE PUT INTO SPECIALLY LABELLED DRUMS (DESCRIPTION AND NEW WCF NO.) AND STORED IN A SEGREGATED AREA OF THE DRUM PAD WHILE THE IMMEDIATE DISPOSAL ARRANGEMENTS ARE MADE (SEE F-5B).

E-5D. MANAGEMENT OF INCOMPATIBLE WASTES IN CONTAINERS

WE ESSENTIALLY HAVE NO INCOMPATIBLE HW WASTES ON THE SITE. ALL HW'S ARE COMPATIBLE WITH THE DRUMS USED FOR STORAGE/OFF-SITE SHIPMENT.

E-5E. MANAGEMENT OF IGNITABLE OR REACTIVE WASTES IN TANKS

THE HW IN TANKS IS ALL DIRTY WASH SOLVENT AND IS IGNITABLE IN NATURE. THERE IS NO REACTIVE WASTE ON THE SITE THAT WOULD EVER BE PLACED IN TANKS. THE TANKS AND PIPING ARE BONDED TOGETHER AND GROUNDED TO PREVENT STATIC BUILD-UP AND POSSIBLE IGNITION. ADDITIONS TO THE TANKS ARE MADE BY POURING FROM A CONTAINER GROUNDED TO THE TANK OR BY USING A GROUNDED HOSE/PUMP COMBINATION FROM A GROUNDED CONTAINER. ALL TANKS ARE VENTED TO THE ATMOSPHERE THROUGH PIPES FITTED WITH CONSERVATION TYPE FLAME ARRESTOR VENTS. THIS COMBINATION OF PROCEDURES AND EQUIPMENT HAS BEEN SATISFACTORILY USED FOR DECADES OF HANDLING IGNITABLE MATERIALS IN THE PLANT.

E-5F. MANAGEMENT OF INCOMPATIBLE WASTES IN TANKS

ALL THE SPENT WASH SOLVENTS PLACED IN THESE TANKS ARE KNOWN TO BE COMPATIBLE FROM YEARS OF EXPERIENCE AND WCF'S.

E-5G & H. MANAGEMENT OF WASTE PILES

THERE ARE NO WASTE PILES ON THIS SITE.

V. INSPECTION PLAN

A. General

1. 40 CFR 265.15 requires an inspection plan to provide early detection and correction of hazardous waste leaks and to insure emergency equipment is operating properly.
2. This plan is intended to insure that: (1) all storage containers and tanks remain in good condition; (2) any damaged or leaking HW containers are promptly re-containerized (3) any HW leaks from tanks are promptly detected and stopped; (4) Any spill of HW in storage areas is promptly cleaned up; and (5) all safety and emergency equipment is in good operating condition.
3. This plan is no different than existing policy and practice except the formal log and record keeping for the storage areas.
4. Management of the facility will have the responsibility to audit the performance of assigned inspectors by checking the log keeping and spot checking the storage areas weekly.

B. Frequency

1. 40 CFR 265.14 specifies weekly inspection for HW containers and tanks.
2. The best time for storage area inspection would be early in the week after the facility has been closed for the weekend.
3. All containers and tanks should be checked immediately following a materials handling accident or major container failure.
4. The safety equipment is inspected in accordance with Procedure #44 and the computerized inspection/tickler system (weekly, monthly, quarterly, etc.)

C. Items to be Checked

1. Drum Pad
 - a. Leaks or evidence of significant deterioration of containers
 - b. Evidence of physical damage (such as fork truck impact).
2. Tanks
 - a. Leaks or evidence of significant deterioration of tanks
 - b. Leaks from piping in system
 - c. Evidence of over-flow (on tank sides)
 - d. Condition and function of level gages and any other instrumentation
 - e. Surrounding area for evidence of leaks
3. Safety Equipment
 - a. Evidence of physical damage
 - b. Other parameters per Operating Procedure #44.

V. INSPECTION PLAN (continued)

D. Logs

1. An inspection log shall be maintained for each separate storage area -- as designated on Form 3, page 5 of the facilities Part A (Interim Status) permit application.
2. Format of the inspection log is attached. (Same format used for container storage area and tanks.)
3. All logs are numbered sequentially and kept on file for at least three years after the inspection date (normally a year's worth will be disposed of at a time -- 3 years after the facility prepares its annual report in January to cover that year's inspection).
4. It is essential that:
 - a. The weekly schedule be adhered to
 - b. Any discrepancies be noted and corrective action noted (date when done)
 - o Leaking bungs need new gaskets.
 - o Leaking open-heads need new top gaskets.
 - o Leaking or badly damaged drums require re-drumming.
 - o Leaking tanks, pipes, etc. require immediate maintenance attention to prevent ignition of vapors.
 - c. The absence of any leaks, etc., be noted under "Observations" as None.

F-3. WAIVER OF PREPAREDNESS AND PREVENTION REQUIREMENTS

No waiver is sought since the plant site facilities are adequate to meet any situation resulting from the storage of ignitable HW and do meet the statutory requirements of 40 CFR 264.32.

F-3a. Equipment Requirements

The site meets all of the requirements below:

F-3a(1). Internal Communication

The plant has a 14-box Gamewell double loop, fire alarm system, with site-wide, clearly audible horn/bell signals. When activated, the system rings the location code of the box pulled. The plant supervisory and management personnel regularly uses a radio system consisting of:

- A base station at the guard house
- 19 hand-held two-way radios which can call each other and the base station.
- 22 pagers which can only receive a verbal message from the base station.

This radio system is an integral part of the plant's rapid response to any emergency situations on the site. The plant site also has a telephone system with interval 3-digit dialing from about 120 phones.

F-3a(2). External Communications

Most calls of an emergency nature would be made by the guards on duty every day, around-the-clock at the main gate house. They have an extensive procedures book ("Security Manual") which covers all aspects of perimeter surveillance,

-52-

access restrictions, and emergency responses (see Index attached). To reduce errors and speed response, a "speed call-in" system allows two-digit, four-second dialing of persons who might be needed in an emergency (fire, police, hospitals, emergency coordinator, City of Toledo management, etc.). For example, to dial the fire department requires you push *,2,0.

Any drop in fire system pressure caused by opening a hydrant, fire system breakage or spinkler activation will give an alarm, to American District Telegraph (ADT). ADT would notify the guard house immediately and/or the city fire department.

In addition as a backup, a large percentage of the telephones on th site can dial outside ("9") and reach emergency numbers listed on the inside of Toledo phone directory.

F-3a(3). Emergency Equipment

A detailed list of fire fighting equipment (over 200 hand extinguishers plus firehoses, deluge guns, foam generators, etc.) available to employee fire brigades (one on every shift) and compatible with City of Toledo fire department equipment is given in the attached Preparedness and Prevention Plan (PPP).

F-3a(4). Water for Fire Control

Sufficient water is available for the fire system described in the PPP. A diesel fire pump can deliver 1,500 gpm of water at 125 psig pressure for operating the hose

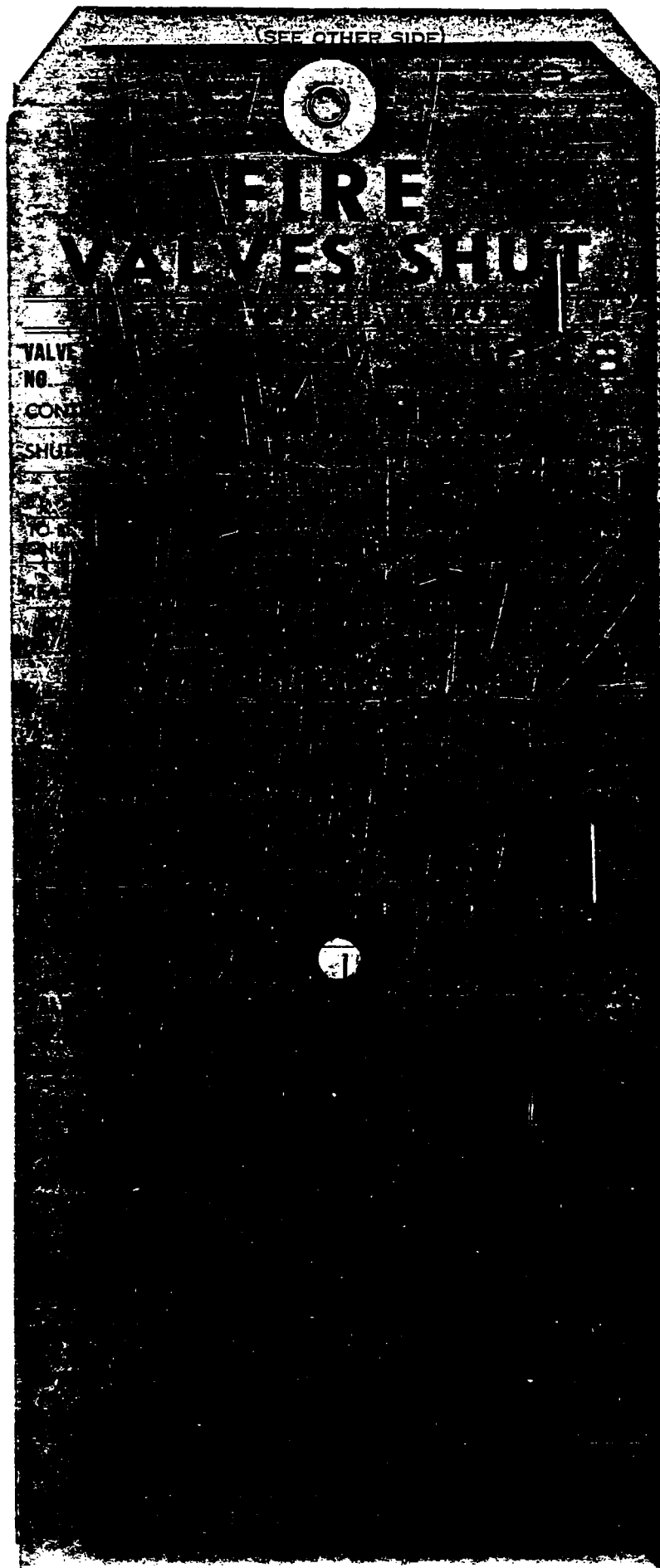
-53-

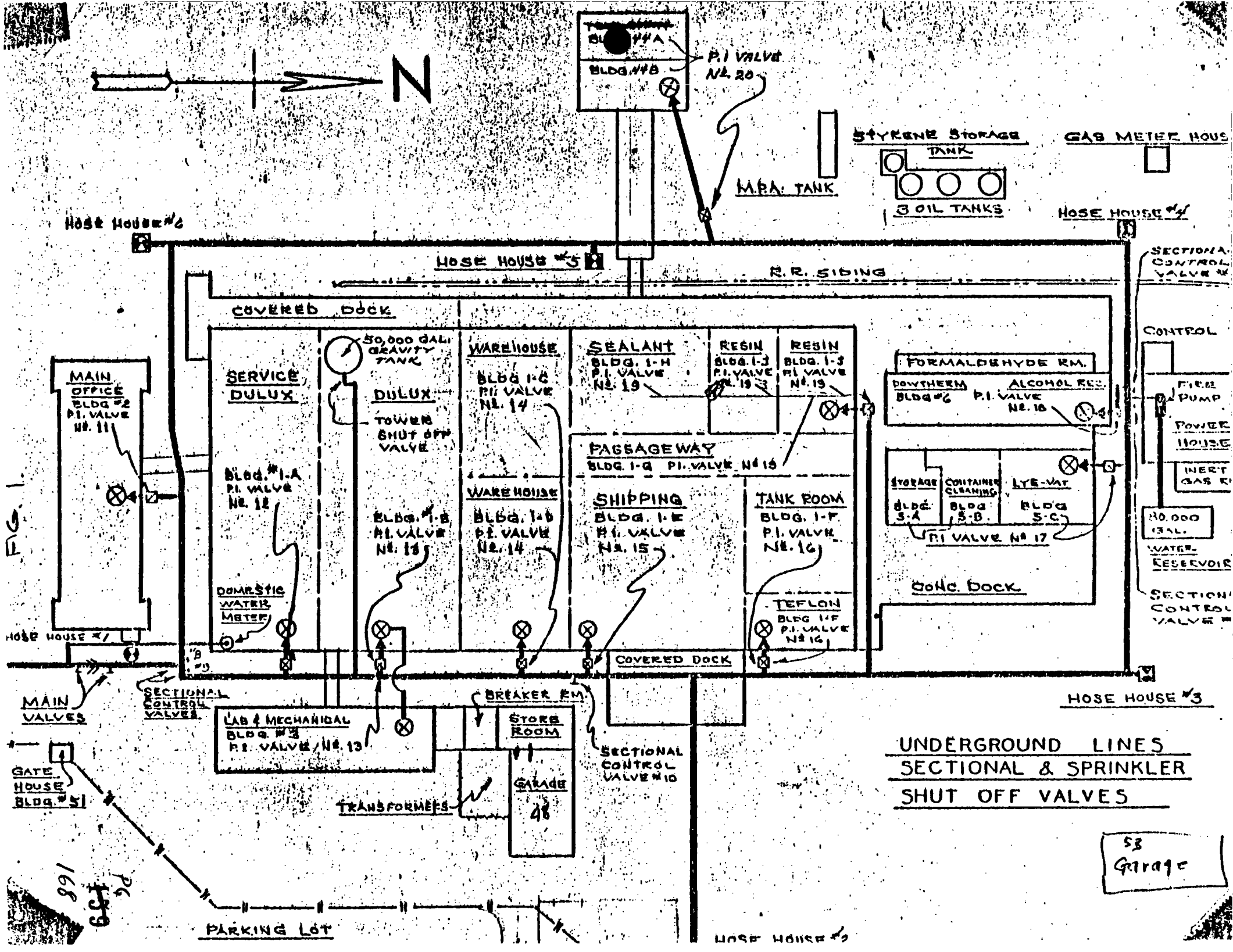
system, sprinklers and foam generating equipment. There are two water storage facilities with 130,000 gallons of capacity onsite (see PPP Section B-7).

F-3b. Aisle Space Requirement

All HW storage units are accessible by Fire Brigade/Fire Department vehicles and personnel at all times.

FIG. 2





A. D. T. AIR PRESSURE SIGNAL #113
 MAINTAIN - 35#
 LOW SIGNAL - 25#
 HIGH SIGNAL - 45#

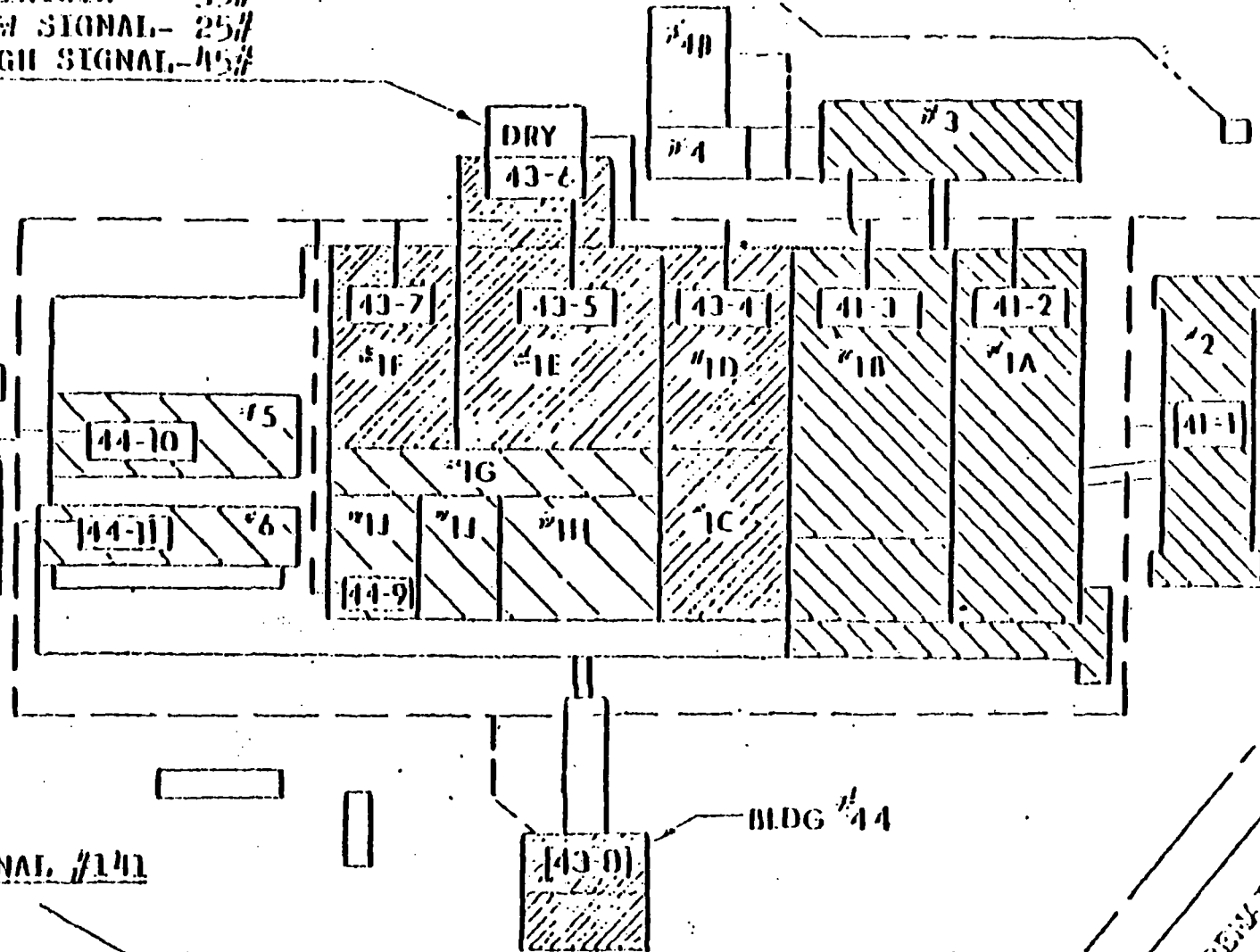
PARKING LOT

12

FIG. 3

FIRE HOUSE

A. D. T. FIRE PUMP SIGNAL #141
 PUMP RUNNING
 PUMP FAILED TO START



Sample of Safety Inspection Tickler

SUB	C					
DEPT	DEPT	FREQUENCY	D	BLDG	DUE DATE	TICK NO INSP NO
10	M1	WEEKLY	2		07/01/82	03 0001

DESCRIPTION
INSP. FIRE PUMP S-14 (SH-0020)

OK NG ACTION

I I I I I I
I I I I I I

CG

INSPECTED BY

6-30

INSPECTION DATE

F-4. PREVENTIVE PROCEDURES, STRUCTURES AND EQUIPMENT

Several existing plant procedures are in the PPP and are applicable to this section. Again, as discussed in B-1 and F (introductory paragraphs), the entire spectrum of raw materials, intermediates, finished products and wastes on this site require handling as ignitable, hazardous materials. No special procedures, structures or equipment are used for HW.

F-4a. Unloading Operation

Any drums of HW received or handled from generating operations on site are handled on pallets by outside fork trucks with driver protection overhead guards, flashing lights, back-up alarm, etc. Standard Practice No. 45 covers fork truck practices.

F-4b. Run-Off

The tanks, with the exception of numbers 13 and 14, are inside operating buildings and have no run-off. Tanks 13 and 14 are located in individually diked areas where contaminated run-off can be contained and pumped-out. The container storage pad has its own dike, retention basin and release valve to contain run-off prior to testing, as described in Section D-1a(3)&(4).

F-4c. Water Supplies

The plant has no nearby water supplies which need measures to prevent contamination. Two on-site wells are used only for cooling water (not potable). The water in NPDES outfalls F216001 and F216002 is monitored by daily grab samples. Outfalls 001 and 002 leave the site by common pipe after joining a city storm sewer which crosses the plant.

F-4d. Equipment and Power Failure

A power outage will have no impact on the safety of this site. The fire main system has a diesel operated fire pump requiring no power for operation. An unexpected electrical shut-down will have no impact on the pumping of spent wash solvent, except for temporary cessation of transfer operations. The only equipment actively involved in the handling of containerized is fork lift trucks. 21 trucks are available on the site, allowing spares to be utilized for the handling of HW.

F-4e. Personnel Protective Equipment

Our safety and industrial hygiene program meets or exceeds OSHA requirements in every aspect of worker safety. The use of company supplied personal protective equipment is mandatory for tasks which otherwise would pose a risk to employees. The entire HW facility is a safety glasses area. Safety shoes, respirators (or air-supplied masks), gloves, hard hats, and face shields are examples of safety equipment used on this site. As noted previously, handling of HW is not a new hazard to our employees--all the constant safety effort for the regular materials we use applies to our HW also.

F-5. PREVENTION OF REACTION OF IGNITABLE, REACTIVE & INCOMPATIBLE
WASTES

As indicated earlier, almost all the materials on the plant (raw material, intermediates, finished products and wastes) are ignitable and no new precautions or procedures are necessary due to RCRA HW regulations. We normally have no reactive wastes. The exception is the unreacted/partially reacted monomer (WOT-8) waste streams. Only a few drums have been generated since RCRA went into effect in 1980. The material is chemically inhibited for stabilization, drummed at its generation point, labelled and disposed of off-site by contract incineration promptly without mixing with other wastes.

F-5a. Precautions to Prevent Ignition or Reaction of Ignitable
or Reactive Waste

As described in Section B-1 and the introductory paragraphs of Section F, the entire site is controlled for ignition source through smoking area restriction, "no matches/lighters" policy, welding/burning permit system and continual safety training of all personnel. Specifically, these precautions are taken:

- No matches or lighters may be carried by anyone on their person, anywhere on the entire plant site (except in the for burning permit situations if needed). Penalty for employees is discharge; for contractors and visitors it is expulsion from the site.

-57-

- The use of any flame-producing or ignition source (welding, cutting, burning, etc.) requires the issuance of a "burning permit". The procedure for obtaining the permit requires an on-the-spot inspection and the signature of the maintenance supervisor of mechanic doing the work, area supervisor where the work is being done, and the fire chief. It also requires careful selection of proper fire prevention precautions and establishment of a fire watch (additional person with adequate fire extinguisher in hand). The permit has a finite life time--usually only one shift (reference: Standard Practice V-11, Permits for use of open flame and electric tools).
- The entire plant is grounded to prevent static build-up and discharge (including building frames and fixed equipment). All portable equipment usage and ignitable liquid transfers requires grounding by special clamps and/or grounded electrical plugs. In production areas, use of electrical tools also requires a permit (again see Standard Practice V-11).
- Smoking is permitted in certain areas inside the plant (such as front office, cafeteria, some conference rooms, etc.) by providing electrical lighters to prevent non-intentional carrying of matches/lighters back to the workplace.

- The No-Smoking/fire prevention theme is repeatedly used in frequent employee safety meetings. It is an integral part of all contracts with non-employees for work to be done on the site and part of weekly safety inspections and management audits.

F-5b. General Precautions for Handling Ignitables or Reactive Waste and Mixing of Incompatible Waste

The making of paint is essentially a mixing process. All paint ingredients in the wastes may be mixed for storage since they are compatible. Certain raw materials used in resin production are not compatible and will react. However, these items are not normally in our waste streams. If a situation involving mischarged ingredients or a spill of these materials is encountered, they are never put in any of the spent wash solvent tanks but always into clean drums and marked with their contents. The Solid Waste Coordinator then is contacted to arrange for suitable, safe disposal by off-site contractors.

F-5c. Management of Ignitable or Reactive Wastes in Containers

The site handles no reactive wastes. The containers on the storage pad are a minimum of 400 feet from the site property line. Should a reactive waste be generated from some future unusual occurrence, it would be drum into specially labelled drums (description and new WCF No.) and stored in a segregated area of the drum pad while the immediate disposal arrangements are made (see F-5b).

F-5d. Management of Incompatible Wastes in Containers

We essentially have no incompatible HW wastes on the site. All HW's are compatible with the drums used for storage/off-site shipment.

F-5e. Management of Ignitable or Reactive Wastes in Tanks

The HW in tanks is all dirty wash solvent and is ignitable in nature. There is no reactive waste on the site that would ever be placed in tanks. The tanks and piping are bonded together and grounded to prevent static build-up and possible ignition. Additions to the tanks are made by pouring from a container grounded to the tank or by using a grounded hose/pump combination from a grounded container. All tanks are vented to the atmosphere through pipes fitted with conservation type flame arrestor vents. This combination of procedures and equipment has been satisfactorily used for decades of handling ignitable materials in the plant.

F-5f. Management of Incompatible Wastes in Tanks

All the spent wash solvents placed in these tanks are known to be compatible from years of experience and WCF's.

F-5g & h. Management of Waste Piles

There are no waste piles on this site.

TABLE OF CONTENTS

<u>PAGES</u>	<u>SUBJECT</u>
60-68	GENERAL DESCRIPTION
69-1--69-5	PREPAREDNESS AND PREVENTION PLAN
69-6	ANNUAL INSPECTION OF PLANT
69-7	LETTER TO DIRECTOR OF EMERGENCY SERVICE OF ST. VINCENT HOSPITAL
69-8	LETTER TO DIRECTOR OF EMERGENCY SERVICE OF TOLEDO HOSPITAL
69-9	LETTER TO DIRECTOR OF EMERGENCY SERVICE OF MERCY HOSPITAL
69-10	FIRE ALARM CONTROL BOARD--INSPECTION AND TESTING

69-11 FIRE PUMP INSPECTION AND TESTING

69-12 RECORDS

69-14 AUTOMATIC SPRINKLER SYSTEM PLUGGAGE TEST

69-17 ANNUAL SPRINKLER SYSTEM--FULL FLOW DRAIN TEST

69-19 SPRINKLER CONTROL VALVE (PI) INSPECTION AND TESTING

69-21 AUTOMATIC SPRINKLER SYSTEM DRY PIPE VALVES

69-23 FIRE EXTINGUISHERS INSPECTION

69-25 ELEVATED WATER TOWER INSPECTION

69-26 SECTIONAL CONTROL VALVE INSPECTION AND TESTING

69-28 FIRE HYDRANT INSPECTION

69-30 HYDROSTATIC TEST OF UNDERGROUND FIRE MAIN

69-32 FIRE DOOR INSPECTION

69-33 DRY CHEMICAL EXTINGUISHING SYSTEM (REF F6A)

69-35 EMERGENCY CONTROL PLAN A --FIRE EXPLOSION AND OTHER

INTERNAL INCIDENTS

69-49 EMERGENCY CONTROL PLAN FOR WEATHER EMERGENCIES

69-54 EMERGENCY CONTROL PLAN FOR CIVIL DISORDERS

69-60 EMERGENCY CONTROL PLAN FOR INDUSTRIAL INCIDENTS
EXTERNAL TO THE PLANT

69-61 EMERGENCY CONTROL PLAN FOR DELIBERATE DAMAGE

69-63 SPILL PROCEDURE

69-70 IDENTIFICATION OF THE HEALTH, FIRE, AND REACTIVITY
HAZARDS OF MATERIALS

69-76 HANDLING OF HAZARDOUS MATERIALS

69-~~115~~⁹⁷ HAZARDOUS MATERIAL SPILL HANDLING

69-~~115~~¹⁰⁵ SPILL PREVENTION CONTAINMENT AND COUNTERMEASURE PLAN

69-~~115-117~~^{110 112} HISTORY OF PRIOR SPILLS

69-~~118-130~~¹¹³⁻¹³⁴ SPILL CONTINGENCY AND CLEAN UP PLAN

G. CONTINGENCY PLAN

This plan is a combination of several previously existing procedures than encompass the actions to be taken in response to any "disaster" on the plant--fire, explosion, spill, vapor release, major accident, etc. The designation of certain materials as hazardous wastes under RCRA requires absolutely no change in the "Emergency Control Plan A-Fire, Explosion and Other Internal Incidents" (Procedure No. 19-A) (see attached). In addition, a Spill Prevention Control and Countermeasures (SPCC) Plan (also attached) is in existence because of the site's NPDES permit. The Prevention and Preparedness Plan (PPP) and several other specific plans are also attached.

G-1. General Information

This plan and all attachments provides emergency response procedures for the following Du Pont owned and operated manufacturing plants:

E. I. du Pont de Nemours & Co., Inc.
Finishes & Fabricated Products Department
1930 Tremainsville Road
Toledo, Ohio 43613

Lucas County

EPA ID No. OHD005041843

A site plan is attached. The plant produces a wide variation of paints and other surface coating materials for a number of industries. In conjunction with the Hazardous Wastes (HW) generated as a result of paint production, the site operates a HW container storage pad and several HW storage tanks (see site plan for locations).

G-2. Emergency Coordinators

As outlined in the Emergency Organization (Procedure 19-A), the coordinator on the day shift is the production superintendent (alternates are the Dulux® area and technical supervisors). At night, the Control Laboratory supervisor will act as coordinator until the primary coordinator (or an alternate) can be called into the site. The current list of coordinators is attached.

The coordinators have the responsibility and authority from the plant manager to promptly commit plant forces and resources--and to call in outside assistance as need (city, state or contractor forces)--to adequately deal with any emergency situation.

TANK LOCATION

- A—DRUM STORAGE PAD
- B—TK-1-1A DIRTY WASH SOLVENT DULUX
- TK-2-G1 DIRTY WASH SOLVENT RESIN
- TK-3-G1 DIRTY WASH SOLVENT RESIN
- TK-4-G1 DIRTY WASH SOLVENT RESIN
- C TK-5-G1 DIRTY WASH SOLVENT RESIN
- TK-6-G1 DIRTY WASH SOLVENT RESIN
- TK-7-G1 DIRTY WASH SOLVENT RESIN
- TK-8-G1 DIRTY WASH SOLVENT RESIN
- D TK-9-BLOG5 DIRTY WASH SOLVENT LYE VAT
- TK-10-BLOG5 DIRTY WASH SOLVENT LYE VAT
- E TK-11-BLOG3 DIRTY WASH SOLVENT SOLV. RECOVERY
- TK-12-BLOG6 DIRTY WASH SOLVENT SOLV. RECOVERY
- F TK-13-BLOG7 DIRTY WASH SOLVENT PHOUSE
- G TK-14 DIRTY WASH SOLVENT WEST TANK FARM
- D TK-15-BLOG3 DIRTY WASH SOLVENT LYE VAT

ALL TANKS CONTAIN DIRTY WASH SOLVENT DESTINED FOR RECOVERY

OHD 005041843

E. I. DUPONT DE NEMOURS & CO.	
TOLEDO PLANT TOLEDO, OHIO	
INVENTORY SHEET	
Drawn by: M. E. P. A. L.	Check by: J. W. B. P. A. L.
Checked by: J. W. B. P. A. L.	Drawn by: M. E. P. A. L.
Scale: 1" = 50'	Notes: 1. 100'

-60a-

OHD005041843

-62-

EMERGENCY COORDINATORS

Primary Coordinator Frederick P. Hartz, Production Superintendent
Office Phone (in plant): 358 (478-1358)
Pager Unit No. 54
Home Phone: **Non-responsive**
Speed Call in No.: 22

Alternates - days Harvey J. Learman, Dulux®
Office Phone: 244 (478-1244)
Pager Unit No. 53
Home Phone: **Non-responsive**
Speed Call No. 34

Donald C. Teal
Office Phone: 347 (478-1347)
Pager Unit No. 25
Speed Call No. 36

Alternate - nights
(Rotating Shifts) D. Green) Control Lab
K. H. Gill) Supervisor
L. E. Webb)
Office Phone No. 205 (478-1205)
Page Unit No. - None
Home Phone: N/A
Speed Call No. - None

G-3. Implementation

The plan is implemented by pulling any fire alarm box--even if the disaster is not a fire (the response is the same). Teams respond and the Disaster Chief makes an evaluation of the situation (radio communication is essential here). The Coordinator then implements further action as appropriate (call-ins, fire department, evacuation, etc.). The philosophy of reacting promptly when in doubt assures full implementation when the incident is significant. Drills are held regularly to assure all personnel are familiar with their role and response.

G-4. Emergency Response Procedures

G-4a. Notification

The Gamewell fire alarm system has multiple horn/bell locations audible throughout the site which give a signal indicating location of box pulled. The plant radio system (outlined in Procedure 19-A under Communications) is used for notification and feed back. The designated supervisors and managers in the plan carry these radios at all times as part of normal plant communications. The guards have an accelerated speed call-in system if the primarily coordinator and other management personnel are not on the site (4:30 p.m. to 8:00 a.m. or shut-down days). The guards also have numbers of off-site response agencies to call.

G-4b. Identification of Hazardous Materials

Essentially all raw materials, intermediates, finished products and HW on the site are hazardous for the same reason: ignitability. No other property of these wastes is pertinent for emergency response. Fire and/or explosion is the only concern.

G-4c. Assessment

The potential hazards to human health involve only burns and smoke inhalation. No procedures involving neighbors or street traffic would be required other than normal City of Toledo fire/police activity at a fire scene. On the plant fire brigade response (outlined in Procedure 19-A) will be adequate to extinguish all but the largest fires; City of Toledo Fire Department will be called if there is any fire not immediately extinguished by operators. The Emergency Coordinator, in consultation with the Disaster Chief and the Solid Waste Coordinator, will call the National Response Center (1-800-424-8802) and Ohio EPA contacts for discharges under the Clean Water Act, RCRA or CERLA (Superfund) as appropriate.

Procedure No. 7 (attached) explains tank markings which provide easy recognition of health, fire and reactivity hazards. These are NFPA national standards and known to outside fire department personnel.

G-4d. Control Procedures

The types of equipment available and specific procedures to follow are detailed in Section G-5 and the attached plant Safety Procedures (Nos. 19-A, 22, 7, 42, and 36), the PPP and Standard Practices (Nos. V-2 and V-10).

G-4e. Prevention of Reoccurrence of Spread of Fires, Explosions or Releases

The use of water and/or foam to suppress fires and remove the source of ignition will prevent further danger from fires. All operations (except resin kettles) are stopped when the alarm is sounded and all personnel evacuate if not on a specific response team. An immediate investigation is instituted to determine the cause. Any spilled waste will be pumped to drums or contractor tank wagons.

G-4f. Storage and Treatment of Material

No treatment would be required for material resulting from emergency incidents at the site. The ignitable material would normally be drummed or put into portable tanks and placed in container storage. If large quantities of water contaminated with organics is generated, a contractor tank wagon/vacuum truck would be utilized. Temporary storage during cleanup could be done at the vacant area behind the garage or pavement in front of the warehouse if the storage pad was the location of the incident.

G-4g. Incompatible Waste

There is normally no incompatible waste on the site. If any should be generated, drums would be segregated at the end of the storage pad. If the pad was involved in the incident, temporary storage of drums could be done behind the garage or on pavement in front of finished product warehouse.

G-4h. Post-Emergency Equipment Maintenance

Normal plant procedures require replacement of fire extinguishers after use, dry and replace hoses, resupply foam, refill air bottles for Scott Airpacks, etc. Many reserve items are in storage and would be put in service while refurbishing and replenishing equipment.

G-4i. Container Spills and Leakage

The attached procedures outlined equipment to uses, safety precautions to be taken, and responsibility for spill clean up. Any damaged or leaking HW containers found during the weekly inspection are to be repaired (new bung gaskets, etc.) or re-drummed at once (same shift). Spills are investigated for future prevention and operators disciplined if negligent.

G-4j. Tank Spills and Leakage

The same procedures apply to tank overflow or leaks. The two large outside HW tanks are in individual dikes which can be pumped out to portable tanks if a spill occurs.

G-4k. Waste Piles

There are no waste piles on this site.

G-5. Emergency Equipment

Spill control equipment lockers are located in various operating areas. Absorbent material is located in drums at the container storage pad. The attached Prevention and Preparedness Plan (PPP) has a list of the fire protection equipment.

G-6. Coordinator Agreements

The City of Toledo fire, rescue and police units are obligated to respond when called by the plant. No written agreement exists, is needed or desired. The fire department is invited to tour the site at least annually for familiarization with potential fire hazards and our internal fire hazards capabilities. We have hydrant fittings, etc. which are fully compatible with the city equipment.

Since fire is the only emergency situation our HW could be involved in, the only response unit that is in need of familiarization is the Toledo Fire Department and Rescue Squad (see discussion in Section E of the attached PPP).

G-7. Evacuation Plan

Upon implementation of Emergency Control Plan A (fire alarm signal), assigned personnel respond to their tasks (fire brigade, first aid personnel, coordinators, etc.). All other personnel evacuate to non-operating areas at the front of the plant for a head count. Visitors and contractors must report to the gate house for a head count by the guards. All personnel are aware of alternate stairways and routes from the operating areas.

G-8. Required Reports

A significant incident involving HW requiring the implementation of the Contingency Plan must be reported to the Regional Administrator (USEPA, Region V, 111 West Jackson Blvd., Chicago, IL 60604) within 15 days. Information required is outlined at 40 CFR 264.56(j).

VII. PREPAREDNESS AND PREVENTION PLAN

A. General

1. The primary purpose of this plan is to manage the facility safely without fires, explosions or injury to employees. Du Pont has traditionally maintained a safe working place with minimum accidents, spills or fires. This site has its own safety and occupational health audits. There are also corporate audits. Hazardous waste rules as defined by RCRA add no new hazards or safety problems to our site.

B. Emergency Site Equipment

1. Hose Houses/Boxes

There are six hose houses each with 200' to 300' of 2-1/2" hose and a hydrant connected to an eight inch water main. Three houses are on the east side of the plant and three are on the west side.

2. Emergency Van

A Chevrolet Van is kept in the Mechanical storage building. It is equipped with hand fire fighting equipment, Scott Air Paks, protective clothing and a standby electrical generator.

3. Foam Trailer

This carries a 500 gallon tank of aerofoam, #00-6% liquid, hose and nozzles. It is kept in the Mechanical storage building and is pulled by the emergency van. It is used to fight fires anywhere on the facility or it can supply foam to the tank farm manifold system.

4. North Tank Farm Foam Manifold System

This is a system of piping and foam distributors which covers the five (5) diked section of the tank farm. Foam is supplied through the foam trailer and hydrant hook-up.

5. One-Inch Hose Reels

There are 21 one-inch hose reels with fog nozzles located throughout the manufacturing building. These reels have 50' of hose which is sufficient to overlap the area covered by the adjacent reels. These nozzles spray water over the fire, cutting off the oxygen supply to the fire.

6. Sprinklers

Buildings on the facility are protected by automatic sprinklers except the powerhouse, garage, storeroom, Mechanical storage building and gatehouses. The heads will rupture normally at 135°F. These sprinklers help contain the fire until fire fighting crews arrive. All sprinkler systems are connected to ADT's control panel downtown who notify plant supervision and/or the City Fire Department which can be at the facility ready to fight the fire within a few minutes from the time the sprinkler head ruptures.

VII. PREPAREDNESS AND CONVENTION PLANB. Emergency Site Equipment7. Fire Pump and Reservoir

We have two (2) storage facilities on the site for water to be used for fire fighting. One is the 50,000 gallon tank on the roof and the second is the 80,000 gallon reservoir at the Powerhouse. Our diesel fire pump is connected to the 80,000 gallon reservoir and can pump 1,500 gpm of water, if needed at 125 psig.

8. Automatic Dry Powder Systems

There are ten (10) systems located at various scale pipe headers in the plant. Two are in Small Batch, one in "Dulux" 1-B-2, one in No. 3 Resin Kettle Room, one in 1-E Warehouse and two in the Portable Tank Cleaning Area. These operate automatically by means of fusible links in event of a fire. In addition, solvent lines at draw stations are equipped with self-closing ball valves held open by fusible links.

9. Fire Extinguishers

a. Water - Six (6) 2-1/2 gallon units are located in the halls of the Main Office Building - one on the first floor and one on the second floor. Note: except for these extinguishers, fires in ordinary combustibles are to be fought with these lines.

b. CO2 - There are 100 CO2 units on the Plant in the following sizes:

- | | |
|---------------|-------------|
| 1. 3 - 2-1/2" | 4. 21 - 15# |
| 2. 30 - 5# | 5. 34 - 20# |
| 3. 8 - 10# | |

These are for use primarily on electrical and solvent fires.

c. Dry Powder - There are 97 hand type 20# and 10# extinguishers located throughout the Plant. In addition, there are eight wheeled type 150# units and two 350# units in strategic areas.

d. Met-L-X - We have four 30# Met-L-X dry powder extinguishers which are used for magnesium and other metal fires. They are located on 1-A-3, 1-A-2 and 1-A-1 for protection against magnesium paste fires and in the welding shop for portable tank repair coverage.

VII. PREPAREDNESS AND CONVENTION PLAN

B. Emergency Site Equipment (continued)

9. Fire Extinguishers (continued)

e. Inspection of Extinguishers

All fire extinguishers must be inspected monthly by the area supervisor. A record of inspections is attached to each extinguisher. The Mechanical Department will inspect quarterly.

It will be the responsibility of the area supervisor to check all fire extinguishers in his or her area to see that they remain in their proper locations.

- (1) CO2 extinguishers are checked quarterly and must be recharged whenever more than 10% off. They are checked monthly for broken seals and general operating conditions.
- (2) When an extinguisher has been damaged, discharged or if pressure is found to be low, the supervisor of the area will immediately notify the Mechanical Department. The Mechanical Department will replace the extinguisher and be responsible for repairs and recharging.
- (3) Extinguishers may not be replaced, unless authorized by the Disaster Chief or his Assistant.

VII. PREPAREDNESS AND PREVENTION PLAN

C. Fire Inspections

1. Daily inspections should be made by the operating areas to insure proper operation of fire doors, all fire equipment is readily accessible, all fire extinguishers are in place and fire doors are not blocked.
2. A quarterly inspection is made by the Mechanical Department of all fire fighting and protective equipment including fire mains, hose, extinguishers, sprinkler system and fire doors. A copy of the inspection report is routed to each area.
3. The Mechanical Department daily checks the fire alarm system to insure it is operable. Weekly- at 10:00 a.m. on Monday, test alarms are sounded. Test alarms are always preceded by one (1) ring to denote it is a test. The fire pump is operated 30 minutes each Wednesday to insure it is in operable condition.
4. A.D.T. with a Mechanic, checks the A.D.T. detection system every two months. This is always on the second Tuesday. They open a drain valve to each sprinkler system and check their control panel to insure they receive a flow signal.

D. Other Site Programs

Refer to these existing response plans attached to the Contingency Plan and Emergency Procedures (Section VIII).

- Emergency Control Plan A - Fire, Procedure #19-A
- Identification of the Health, Fire and Reactivity of Materials, Procedure #7
- Handling of Hazardous Materials, Procedure #22
- Spill Procedure - Procedure #42
- Hazardous Materials Spill Handling

E. Local Emergency Authorities

1. The type of HW handled at this facility is essentially all ignitable and/or EP toxic for heavy metals. The local authorities, therefore, have a primary concern for fire safety -- as they do for all of the ignitable materials on the site. The Toledo Fire Department (and Rescue Squad) makes an annual visit to the site to re-familiarize themselves with our facilities, hazards, access routes, etc. The latest visit is documented on the attached.

VII. PREPAREDNESS AND PREVENTION PLAN

E. Local Emergency Authorities (continued)

2. Since the police would only have a minor role in traffic control during a fire, they do not regularly visit the plant for familiarization. A letter advising them of our HW storage and the type of emergency they might be called upon to respond to was send (copy attached).
3. Local hospitals have known capabilities for treating burns, smoke inhalation and other injuries from fires. We do not feel there is any other expected type injury from emergency incidents in our HW storage facility. A letter advising them of our HW storage and the type of injuries that might occur from an emergency incident at our facility was sent to several of them (copies attached).

4. The emergency authorities for our plant are:

- | | |
|------------------------------------------------|----------|
| a. Toledo Fire Department and/or Rescue Squad: | 241-1211 |
| b. Toledo Police Department: | 243-4141 |
| c. Ambulance | |
| • Hope | 478-5953 |
| • Bunting | 475-4606 |
| d. Hospitals | |
| Flower | 885-1444 |
| Mercy | 259-1500 |
| Medical College of Ohio | 381-3866 |
| Parkwood | 242-8471 |
| Riverside | 729-5151 |
| St. Charles | 698-2511 |
| St. Luke's | 893-5911 |
| St. Vincent's | 259-4098 |
| Toledo | 473-4218 |

5. The Plant Doctor is Dr. J. R. Stevens - Office: 474-5443
 Home: Non-responsive

If the doctor is not available, call the Academy
 of Medicine: 473-3200

6. We have a contract with ~~Ace Oil Company~~, Associated Chemical & Environmental Services, 876 Otter Creek Road (P.O. Box 7571) Oregon, OR 97146 for emergency response to spills requiring vacuum truck service.

August 5, 1982

J. W. Shemechko
Hazardous Waste Coordinator

ANNUAL INSPECTION OF PLANT FACILITIES BY TOLEDO FIRE DEPARTMENT

As you are aware, on June 7, 1982, approximately 25 members of the Toledo Fire Department (led by Capt. Mueller) toured the Toledo Plant. I'd like to thank you for your participation on the tour. It was especially helpful having you lead the tour through the hazardous waste pad and the raw material tank farm. Tours such as these help to maintain good relations between the Plant and the Fire Department.



C. J. Szafir, Jr.
Engineering Superintendent



69-7

E. I. DU PONT DE NEMOURS & COMPANY

TOLEDO, OHIO 43605

July 30, 1982

FINANCES DIVISION

Charles Kahle, M. D.
Director of Emergency Services
St. Vincent Hospital
2213 Cherry St.
Toledo, Ohio 43608

Dear Gentlemen:

As part of our responsibility under the Resource Conservation and Recovery Act of 1976, we are notifying you of the types of hazardous waste we have stored on our plant site and the types of injuries you might be called upon to treat, should an emergency incident occur involving this waste.

We have interim permission to store hazardous waste in containers and tanks prior to recovery or off-site disposal, and are applying for a permit to continue this practice permanently. These wastes and the storage practices are not new to our site, but result from our overall operations over the past 50 years.

The primary hazardous characteristic of these waste is ignitibility. Therefore, the primary danger to persons and the injuries you might be called upon to treat in an emergency is burns. Smoke inhalation is another possibility as with all fires. The level of toxicity for these products of combustion is not considered to be abnormal.

If you would care to visit our site (as the City of Toledo Fire Department does annually) for familiarization with our emergency response capabilities and procedures, we would welcome you.

Please contact C. B. Ogle to arrange such a visit. Our Plant Physician, Dr. J. R. Stevens is also available to discuss this matter.

Very truly yours,

E. I. DU PONT DE NEMOURS & COMPANY

R. H. Clark
R. H. CLARK
PLANT MANAGER

RHC/wr

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

By DuPont's ability to improve health by the DuPont's conditions of risk shown on letter's
given and on DuPont's own of letter's under acknowledgment form (if used) and letter's
answer. All technical advice, recommendations and services are rendered by the letter
due of change. While based on data believed to be reliable, they are intended for use by

affiliated persons of their own risk. DuPont assumes no responsibility to cover the results
resulting or damages sustained from their use. They are not to be taken as a license to op-
erate under or intended to suggest infringement of any existing patent.



69-8

E. I. DU PONT DE NEMOURS & COMPANY

TOLEDO, OHIO 43605

July 30, 1982

FINISHES DIVISION

Bruce Janiak, M. D.
Director of Emergency Services
Toledo Hospital
2142 North Cove Blvd.
Toledo, Ohio 43606

Dear Gentlemen:

As part of our responsibility under the Resource Conservation and Recovery Act of 1976, we are notifying you of the types of hazardous waste we have stored on our plant site and the types of injuries you might be called upon to treat, should an emergency incident occur involving this waste.

We have interim permission to store hazardous waste in containers and tanks prior to recovery or off-site disposal, and are applying for a permit to continue this practice permanently. These wastes and the storage practices are not new to our site, but result from our overall operations over the past 50 years.

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Please contact C. B. Ogle to arrange such a visit. Our Plant Physician, Dr. J. R. Stevens is also available to discuss this matter.

Very truly yours,

E. I. DU PONT DE NEMOURS & COMPANY

R. H. Clark
R. H. CLARK
PLANT MANAGER

NHC/vw

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

The DuPont Company is a corporate citizen of the United States. It is committed to the safety and health of its employees and the community. It is committed to the protection of the environment. It is committed to the improvement of the quality of life. It is committed to the advancement of science and technology. It is committed to the betterment of the world.

While DuPont is committed to the safety and health of its employees and the community, it is also committed to the protection of the environment. It is committed to the improvement of the quality of life. It is committed to the advancement of science and technology. It is committed to the betterment of the world.



E. I. DU PONT DE NEMOURS & COMPANY

TOLEDO, OHIO 43685

July 30, 1982

FACTORIES DIVISION

Richard Duda, M.D.
Director of Emergency Services
Mercy Hospital
2200 Jefferson
Toledo, Ohio 43624

Dear Gentlemen:

As part of our responsibility under the Resource Conservation and Recovery Act of 1976, we are notifying you of the types of hazardous waste we have stored on our plant site and the types of injuries you might be called upon to treat, should an emergency incident occur involving this waste.

We have interim permission to store hazardous waste in containers and tanks prior to recovery or off-site disposal, and are applying for a permit to continue this practice permanently. These wastes and the storage practices are not new to our site, but result from our overall operations over the past 50 years.

The primary hazardous characteristic of these waste is ignitibility. Therefore, the primary danger to persons and the injuries you might be called upon to treat in an emergency is burns. Smoke inhalation is another possibility as with all fires. The level of toxicity for these products of combustion is not considered to be abnormal.

If you would care to visit our site (as the City of Toledo Fire Department does annually) for familiarization with our emergency response capabilities and procedures, we would welcome you.

Please contact C. B. Ogle to arrange such a visit. Our Plant Physician, Dr. J. R. Stevens is also available to discuss this matter.

Very truly yours,

E. I. DU PONT DE NEMOURS & COMPANY

R. H. Clark
R. H. CLARK
PLANT MANAGER

RHC/vw

BETTER THINGS FOR BETTER LIVING ... THROUGH CHEMISTRY

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DATE: May 26, 1981SUPERSEDING: Nov. 4, 1971S-13-1MECHANICAL INSTRUCTIONS

TITLE: FIRE ALARM CONTROL BOARD - INSPECTION & TEST
(Ref: Gamewell Bulletin No. 1550, attached
Eng. Std. S6A)

PROCEDURE1. General

The Gamewell Control Panel in the Main Breaker Room shall be checked and readings made daily. The four auxilliary batteries will be tested semi-monthly. Adjustments or repairs will be made at time of inspection. Fire Alarm Boxes are inspected on S-13-2.

2. Inspection & Test

The attached Gamewell Bulletin No. 1550 describes the tests to be made and recorded daily as follows:

- a) Volt - loss to ground - positive & negative.
- b) Milliamps reading.
- c) Voltage - line reading.
- d) Trouble bell.
- e) Voltage - battery.

Record also weather conditions and remarks such as water added to batteries, charge rates, troubles, etc. Twice each month check the specific gravity of the four batteries with a hydrometer.

RECORDS

Use attached "Daily Log Fire Alarm Control Board" sheets 1 and 2, and record all pertinent information mentioned in paragraph 2. Route completed forms to Maintenance Supervisor, Engineering Superintendent and to File.

Records shall be maintained for not less than 1 year and not more than 3 years.

Date: 5/26/81

S-14

Superseding Date: 7/24/77TITLE: FIRE PUMP INSPECTION & TESTINGMECHANICAL INSTRUCTIONSGENERAL

The diesel driven fire pump shall be inspected and tested at intervals as noted below in order to assure proper operation. Repairs, if necessary or possible, shall be made at that time and reported to Mechanical Supervision. Results shall be recorded and placed on file in S-14 Fire Pump.

PROCEDURE1. Weekly

- a) At approximately 9:30 a.m. on Wednesday, open the bypass valve #7 located above the fire pump.
- b) Open the red 1/2" valve located behind the control panel and drain a small amount of water out into the bucket provided. The fire pump should then start. Close the valve and record. Then turn main switch in control panel to "TEST".
- c) Close the bypass valve #7 carefully until the pressure on the pressure gauge on the discharge side of the pump is approximately 85 to 90 psi. Record the pressure.
- d) Check and record the general condition of the pump and motor operation (smooth running, leaks, electrical connections, cleanliness, etc.).
- e) Check and record the fuel level. The level should be no less than 1/2 full.
- f) Check and record the oil level, oil pressure, cooling system temperature, the hour meter reading and tachometer reading.
- g) Check the pump bearings for roughness and hot operation. Lubricate each bearing with a lithium based grease. Record the results.
- h) Check and record the specific gravity of the two batteries using a battery hydrometer making sure to wear the proper protective equipment.
- i) Shut the pump off by turning the switch located in the fire pump control panel to "OFF".
- j) Close the pump bypass valve #7 completely.
- k) Turn the switch in the control panel to "AUTO", close and lock the door to the panel.

RECORDS

Record the results of the test along with the date and inspector on an "S-14 Fire Pump Weekly Test" form. Route the results to the Maintenance Supervisor, Engineering Superintendent and then file in S-14 Fire Pump.

2. Semi-Annually

- a) --Check the fuel oil tank for any sludge buildup.
- b) Replace both fuel filter elements.
- c) Replace both engine oil filters.
- d) Drain and flush the cooling system. Replace the water filter elements.
- e) Remove and clean air filter elements and replace the oil.
- f) Lubricate the generator bearings, tachometer drive and throttle control mechanism.
- g) Check the drive belts for proper adjustment.
- h) Check the generator brushes for wear. Replace if necessary.

RECORDS

Record the results of the inspection along with the date and inspector on an "S-14 Fire Pump Semi-Annual Inspection" form and route to the Maintenance Supervisor, Engineering Superintendent and file in the S-14 Fire Pump.

3. Annual

- a) For the following tests, notify plant personnel and ADT (243-6266) according to Safety Procedure No. 44.
- b) Relief valve test
 - 1) Start the fire pump by opening the red 1/2" valve located behind the control panel. Close the valve.
 - 2) Record the pressure on the gauge located at the discharge side of the pump. This is the regulating pressure.
 - 3) Slowly open the bypass valve #7 located above the pump until the relief valve reseats itself (minor leakage is acceptable). This is the reseal pressure; record it.
 - 4) Slowly close the bypass valve and record the pressure at which the valve begins to open. This is the set pressure. Record the pressure.

- 5) The difference between the set pressure and the reseal pressure (blowdown) should not be more than 8 to 10% of the set pressure. Record this difference. Failure of the relief valve to reseal at a pressure near the set pressure may mean that water which might be needed in fire-fighting would be lost through the relief valve.
- 6) Shut down and reset the fire pump according to the weekly test procedure.

c) Capacity Tests

- 1) Open the bypass valve #7 located above the pump.
- 2) Start the pump by opening the red 1/2" valve located behind the control panel. Close the valve.
- 3) Check the tachometer to be sure the pump is at its rated speed. Record this speed.
- 4) Slowly close the bypass valve until the pump reaches the rated net pump pressure. The rated net pressure should be used when conducting the capacity test. For example, consider a pump which is rated at 100 psi. If the pump being tested has +10 psi suction pressure, the test discharge pressure should be 110 psi. Conversely, if the pump suction is -10 psi, (such as when the water supply level is below the pump), the test discharge pressure should be adjusted to 90 psi. Record this pressure.
- 5) When the pump is running at its rated net pressure, record the flow rate shown on the orifice flowmeter located on the well water control panel. Compare this with the rated capacity.
- 6) Open the bypass valve until the pressure is 65 percent of the net rated pressure.
- 7) Record the flow rate of the flowmeter. The pump should be able to deliver at least 150 percent of the rated capacity.

RECORDS

Record the results of the relief valve tests and capacity tests along with the inspector and date on an "S-14 Annual Fire Pump Test"; route it to the Maintenance Supervisor, Engineering Superintendent and then to file in S-14 Fire Pump. Records shall be maintained for not less than one year and not more than three years.

S-16-1

Date: 5/27/81

Superseding Date: _____

TITLE: AUTOMATIC SPRINKLER SYSTEMS
PLUGGAGE TESTS

MECHANICAL INSTRUCTIONS

PROCEDURE:

1. General

All automatic sprinkler systems shall be tested every five years to provide visual assurance that they are relatively free of scale, gravel, or other foreign material which could result in sprinkler line pluggage. Results of the test shall be recorded and placed on file in S-16 Sprinkler Systems.

The plant shall be tested according to the following test schedule:

- Year 1 - Buildings 1A and 1B
- Year 2 - Buildings C, D, E and the Warehouse
- Year 3 - Building H and J
- Year 4 - Building F, 5 and 6
- Year 5 - Building 2 and 3

2. Inspections

- a. Notify the following plant personnel that sprinkler pluggage tests are to be performed without loss of sprinkler protection.

Plant Manager or his representative
Engineering Superintendent
Maintenance Supervisor
Shift Supervisor
Area Supervisor of area involved
ADT (243-6266)

Plant personnel shall be notified since performing pluggage tests will involve flowing water through the sprinkler system, ringing water gongs in the area involved, and running the fire pump.

- b. Open the 8" bypass valve on the diesel fire pump.
- c. Start the fire pump and close the bypass valve until the pressure on the discharger side of the pump reaches approximately 100 psi.
- d. Remove the cap from each Seco test valve and attach enough 3/4 inch garden hose to each Seco test valve to run the hose outside, if possible. If it is not possible to run the hose outside, place it into an open head drum or portable tank. Hoses shall be run overhead whenever possible to avoid possible tripping hazards. If it is not possible to run overhead, post warning signs (safety cones, expandable barricades, alert signs, etc.) to alert plant personnel of tripping hazards.

- e. Position a man at the hose discharge to avoid whipping of the hose under pressure.
- f. Open the Seco test valve and flow water through the hose until a clear stream is present.
- g. If a Seco test valve does not flow water, flows weakly, or stops during the test, this indicates a pluggage in the line. In the event this happens, the following shall be done:
 - Shut off the Seco test valves.
 - Shut off the PI valve in accordance with Safety Procedure No. 44 "Fire Valve Shut Off".
 - Drain the sprinkler system through the 2" sprinkler draw off line until the pressure on both the riser pressure gauges are zero. To assist draining the line, open the vent valves on the sprinkler system. The vent valves are located at the highest point in the sprinkler system.
 - Starting at the Seco test valve, dismantle the sprinkler line until the source of pluggage is located and removed.
 - Reassemble the sprinkler line.
 - Close the 2" sprinkler draw off.
 - Open the PI valve and let water flow through each vent valve until a steady stream of water exists. (This indicates that all air has been removed from the sprinkler system.)
- h. Flow the Seco test valve again as before to assure the source of pluggage has been removed.
- i. Shut off the Seco test valve.
- j. Remove the garden hose and reattach the test valve cap.
- k. Install a tape around the sprinkler line at the Seco test valve showing the month and year the test was performed.
- l. Shut off the PI valve for the sprinkler system being tested according to Safety Procedure No. 44, "Fire Valve Shut Off".
- m. Drain the sprinkler system using the 2" draw off valve located at the sprinkler riser.
- n. Remove at least one sprinkler head per floor and place in an oven or heated water to determine if the head will break at the rated temperature.
- o. If any sprinkler head does not break at the rated temperature, remove at least an additional three sprinkler heads at various areas on that floor and test those heads.

p. If any of the additional heads do not break at the rated temperature, then all the sprinkler heads on that floor should be replaced.

q. Refill the sprinkler system according to the following:

- Close the draw off valve.
- Open the PI valve and fill the system until a steady stream runs out the vent lines.
- Close the vent valves.

RECORDS:

Record the results of the tests along with the date, number of lines tested, number of heads tested, the PI valve and the inspector on an "S-16 Sprinkler System Pluggage Test" form. Route it to the Maintenance Supervisor, the Maintenance and Construction Supervisor and then file in S-16 Sprinkler Systems with a copy to the area supervisor. Records shall be maintained for not less than five years and not more than ten years.

TITLE: ANNUAL SPRINKLER SYSTEM - FULL FLOW DRAIN TESTMECHANICAL INSTRUCTIONSPROCEDURE: ---1. General

All sprinkler risers shall be tested annually. A full flow drain test will determine pressure drop at the sprinkler riser. An excessive pressure drop may indicate a partially closed valve, physical obstruction within the supply pipe, or internal pipe tuberculation. A full flow drain test will also flush foreign particles, rust, etc., from the sprinkler system which will help to prevent pluggage. Results of the tests shall be recorded on the proper forms and placed on file in S-16 Sprinkler Systems.

2. Inspections

- a. Notify ADT that the fire pump will be running and they will be getting flow signals in all of the sprinkler risers.
- b. Notify the following members of supervision that each sprinkler riser will be flowed and the water gongs will ring:

Plant Manager
Assistant Plant Manager
Personnel Superintendent
All Area Supervision
Maintenance Supervisor
Guard

- c. Open the bypass on the fire pump.
- d. Start the fire pump and close the bypass until the pressure gauge on the pump discharge reads approximately 100 psi.
- e. Open the sprinkler draw off valve wide. The valve is located at each of the sprinkler risers.
- f. Record the flow pressure shown on the sprinkler riser pressure gauge located before the automatic check valve.
- g. Check and record whether or not the water gong is operating during the flow.
- h. Close the sprinkler draw off valve.
- i. Record the static pressure shown on the sprinkler riser pressure gauge located before the automatic check valve.
- j. Check to make sure there is no water flow through the water gong or draw off valve.

RECORDS:

Record the results of the test on an "S-16 Annual Sprinkler System - Full Flow Drain Test" form including the date, the inspector, and each building riser. Route to the Maintenance Supervisor, Engineering Superintendent, then file in S-16 Sprinkler Systems with a copy sent to all area supervision. Records shall be maintained for not less than three years and not more than five years.

TITLE: SPRINKLER CONTROL VALVE (PI) INSPECTION
AND TESTING

MECHANICAL INSTRUCTIONS

PROCEDURE:

1. General

All sprinkler control valves (post indicator valves or PI valves) shall be visually inspected monthly to insure the valve is open, and in good physical condition. They shall be tested annually to insure a complete and positive shutoff. Results of the inspection and test shall be recorded and placed on file in S-16 Sprinkler Systems.

2. Inspections

Monthly

- a. Inspect each valve to insure it is open. Open it if it is closed.
- b. Check to insure the seal is intact. Reseal if necessary.
- c. Check the general physical condition of the valve handle, valve body, to insure it is operable.
- d. Record the results of the inspection along with the date and the inspector on an "S-16 Monthly Sprinkler Control Valve (PI) Inspection" form. Route it to the Maintenance Supervisor and Engineering Superintendent. It should then be filed in S-16 Sprinkler Systems with a copy to all area supervision.

Annually

- a. Fill out a "Fire Valve is Shut" card for each sprinkler control valve and alert ADT and plant personnel according to Safety Procedure No. 44 - "Fire Valve Shut Off".
- b. Shut off the fire pump.
- c. Open the sprinkler draw off valve located at the sprinkler riser. Let water flow for a few moments to flush sediment from the PI valve.
- d. Close the sprinkler draw off valve.
- e. Close the PI valve.
- f. Open the sprinkler draw off valve and reduce the pressure in the riser to approximately 25 to 30 psi. This will be shown on the pressure gauge located before the riser automatic check valve.

- g. Close the sprinkler draw off valve and observe the riser pressure for 15 seconds.
- h. If the pressure rises, open the PI valve slightly and repeat Steps c through g.
- i. If the pressure does not rise, then open the PI valve slowly and completely.

RECORDS:

Record the results of the test along with the date and the inspector on an "S-16 Annual Sprinkler Control Valve (PI) Test" form. Route to the Maintenance Supervisor and the Engineering Superintendent, then file in S-16 Sprinkler Systems with a copy to all area supervision. Records shall be maintained for not less than three years and not more than five years.

S-16-4

Date: 5/27/81

Superseding Date: _____

TITLE: AUTOMATIC SPRINKLER SYSTEM
DRY PIPE VALVES

MECHANICAL INSTRUCTIONS

PROCEDURE:

1. General

All automatic dry pipe sprinkler systems shall be tested every two years to provide assurance of proper operation. Repairs, if necessary, shall be made at that time and reported to Mechanical Supervision. Results of the test shall be recorded and placed on file in S-16 Sprinkler Systems.

2. Inspections

- a. Notify ADT (243-6266) and plant personnel that testing is being performed on the sprinkler system according to Safety Procedure No. 44 so they will show sprinkler flows and the fire pump will be off.
- b. Turn fire pump off.
- c. Close the sprinkler control valve and re-open two turns. This will permit rapid closure after dry valve has been tripped.
- d. Locate inspector's test connection, remove plug and check for safe water discharge.
- e. Record static water pressure on riser and air pressure on sprinkler system.
- f. Open inspector's test valve and record:
 - time for a dry pipe valve to trip.
 - air pressure at which dry pipe valve tripped.

NOTE 1: A valve fails test when:

- it does not operate immediately following reduction of air pressure to zero.
- the valve clapper reseats itself after the valve trips.
- mechanical failure of parts occurs.

NOTE 2: Valves are considered slow in operation and need maintenance when:

- a differential in excess of 6 to 1 water to air pressure is required to trip valve.
- valve trips but all parts do not function properly.

- g. Close main sprinkler control valve completely.
- h. Drain system through main drain on riser and auxiliary drain for those systems so equipped.
- i. Close and re-plug inspector's test connection.
- j. Open and examine dry pipe valve, removing scale or mud. Check valve seat and gaskets.
- k. Reset dry pipe valve and replace cover.
- l. Close riser drain and pressurize system with air.
- m. Fully open main sprinkler control valve slowly.
- n. Test alarm using the alarm test valve.
- o. Reseal all valves with yellow plastic seals.
- p. Secure system by rechecking for constant air pressure, closed drain valve, wide open main control valve and proper position of alarm test valve.

RECORDS:

Record the results of the test along with the date and the inspector. Route the results of the test to the Maintenance Supervisor, Engineering Superintendent and then file in S-16 Sprinkler Systems with a copy to the area. Records shall be maintained for not less than six years and not more than ten years.

S-17-4

Date: December 8, 1981Superseding Date: NoneTITLE: FIRE EXTINGUISHER INSPECTIONMECHANICAL INSTRUCTIONSPROCEDURE:-1. General

All fire extinguishers shall be inspected at intervals as noted below. Repairs, if possible, shall be made at the time of inspection and shall be reported to Mechanical Supervision. Results shall be recorded on the corresponding inspection forms, a copy sent to area concerned, and placed on file in S-17 fire fighting equipment. (Annual only)

2. Inspectionsa. Monthly

1. Extinguisher is in its designated place.
2. Access to or visibility of extinguisher not obstructed.
3. Extinguisher has not been activated or tampered with.
4. No obvious physical damage, corrosion, or other impairment.

b. Annually

1. Weigh cylinder cartridge and replace if it is $\frac{1}{2}$ ounce or more below weight stamped on cartridge.
2. Check freedom of operation of nozzle lever and nozzle obstructions.
3. Remove fill cap from dry chemical shell.
4. Make certain shell is full and that the dry chemical flows freely. Remove a small portion from the top center of the charge with a small scoop. If no lumps are found, the dry chemical is in satisfactory condition.
5. If lumps are present, remove one with fingers and drop from a height of 4" to a hard surface. If the lump breaks apart completely, the chemical is in satisfactory condition. If the lump does not break, replace the charge.

6. Examine fill cap threads and gaskets to see that they are in good condition. Clean the seating surfaces and replace cap tightly.

RECORDS:

The attached "Fire Extinguisher Inspection" form is to be filled out and routed to Maintenance Supervision and to file. Make notations of repairs or adjustments made. Records shall be maintained for not less than two years and not more than four years.

S-18

Date: 5/28/81Superseding Date: 11/5/71TITLE: ELEVATED WATER TOWER INSPECTIONSMECHANICAL INSTRUCTIONSPROCEDURE:1. General

The elevated water storage tank shall be inspected at intervals as noted below. Any defects shall be repaired at that time if possible and reported to Mechanical Supervision. Results of the inspections shall be recorded on the following forms as noted below and filed in S-18 Elevated Water Tank.

2. InspectionsDaily

- a. Check the water level of the tank on the gauge located in 1B Basement on the west wall. The correct level is 127 ft. as shown by the black indicator line on the gauge.
- b. If the tank is not full, it should be filled by turning on the pump located in 1B Basement on the west wall. Run the pump until the water runs out the overflow pipe located on the south side of the water tower.
- c. Check the filling pump packing, flanges, and associated piping for leaks, etc.
- d. During cold weather, check the temperature of the tank on the thermometer located in 1B1 on the west wall by the stairway to insure that it is above the freezing point. If the temperature is too high or low, then adjust the steam pressure down or up, respectively, going to the heater located in 1B1 also.

RECORDS:

Record the results on an "S-18 Elevated Water Tank Inspection Record - Daily" form. Route the results to the Maintenance Supervisor, Engineering Superintendent and file in S-18 Elevated Water Tank with a copy to area supervision.

Superseding Date: _____

TITLE: SECTIONAL CONTROL VALVE INSPECTION AND TESTINGMECHANICAL INSTRUCTIONSPROCEDURE:1. General

All sectional control valves shall be inspected monthly to insure that they are open. The valves shall be tested annually to determine the reliability of valves to provide satisfactory shutoff for fire main repairs and for prompt isolation of accidental main rupture. Results of the inspection and test shall be recorded on the proper forms as listed below and filed in S-19 Fire Mains and Valves.

2. InspectionsMonthly

- a. Remove the cover from the valve.
- b. Check the valve with the valve wrench to insure that it is open.
- c. Check the valve stem, cover and wrench to be sure they are in good physical condition.

RECORDS

Record the results of the inspection on an "S-19 Monthly Visual Sectional Control Valve Inspection" form. Route to the Maintenance Supervisor, Engineering Superintendent, then route to S-19 Fire Mains and Valves with a copy to all area supervision.

Annual

- a. Notify ADT and plant personnel according to Safety Procedure No. 44 - "Fire Valve Shut Off".
- b. Shut off the fire pump, the 8" city water line to the fire main and the 8" valve from the water tower according to Safety Procedure No. 44.
- c. As shown in Figure 1, close sectional control valves X and 8.
- d. Open hydrant #4 and check to determine no flow exists.
- e. Open sectional valve 8 and check for flow at hydrant #4. Close hydrant #4.
- f. Close sectional valve 9.
- g. Open hydrant #4 and check for no flow.

- h. Open sectional valve 9 and check for flow at hydrant #4. Close hydrant #4.
- i. Close sectional valve ~~6~~ 7
- j. Open hydrant #3 and check for no flow.
- k. Open sectional valve ~~6~~ 7 and check for flow at hydrant #3. Close hydrant #3.
- l. Close sectional valves 10 and 12.
- m. Open hydrant #2 and check for no flow.
- n. Open sectional valve 10 and check for flow at hydrant #2. Close hydrant #2.
- o. Close sectional valve 11.
- p. Open hydrant #2 and check for no flow.
- q. Open sectional valve 11 and check for flow at hydrant #2. Close hydrant #2.
- r. Close sectional valve 13.
- s. Open hydrant #2B and check for no flow.
- t. Open sectional valve 13 and check for flow at hydrant #2B. Close hydrant #2B.
- u. Attach a 0-100 psi pressure gauge to hydrant #2A.
- v. Open hydrant #2A and record the pressure shown on the gauge.
- w. Open sectional valve 12 and observe the pressure gauge. If sectional valve 12 has opened, then the pressure will be higher since the water will have less distance to travel. Record that pressure.
- x. Close hydrant 2A and remove the gauge.
- y. Attach the pressure gauge to hydrant #4.
- z. Open hydrant #4 and record the pressure shown on the gauge.
- aa. Open sectional valve 7 and observe the pressure gauge. If sectional valve 7 has been opened, then the pressure will be greater. Record the pressure.

30. OPEN TOWER AND OPEN CITY WATER VALVE

RECORDS:

Record the results of the test on an "S-19 Annual Sectional Control Valve Test" form. Route the results to the Maintenance Supervisor, Engineering Superintendent and then file in S-19 Fire Mains and Valves, with a copy to area supervisor. Records are maintained for not less than three years and not more than five years.

Superseding Date: _____

TITLE: FIRE HYDRANT INSPECTIONMECHANICAL INSTRUCTIONSPROCEDURE:1. General

All fire hydrants shall be inspected quarterly to assure that hydrants are operable and drainage is sufficient to prevent freezing. Repairs, if possible, shall be made at the time of inspection and reported to Mechanical Supervision. Results shall also be recorded on the corresponding inspection forms and placed on file in S-19 Fire Mains and Valves.

2. InspectionsQuarterly

- a. Each hydrant shall be checked to insure good physical condition. The hydrant, handle, drain cocks and valves should be checked for cracks, broken parts or badly rusted parts.
- b. Each hose gate valve shall be opened and closed to insure good operation of each valve. The pre-connected valve shall then remain open and the other valve closed.
- c. Each drain cock shall be checked to insure they are open.

Spring and Fall

Each spring and fall, each hydrant shall be opened and water flowed in the following manner:

- a. Remove pre-connected hose.
- b. Close both drain cocks.
- c. Open both hydrant gate valves.
- d. Open the hydrant valve and run water through both outlets until the stream runs clear (care should be taken to prevent displacement of dirt or gravel; a piece of sheet metal or plywood will protect loose ground).
- e. Close the hydrant valve slowly.
- f. Check hydrant drainage by holding a hand over the hose gate valve opening and checking for vacuum.
- g. Reattach the pre-connected hose.
- h. Close the other hose gate valve.
- i. Open the drain cocks.

RECORDS:

Record the results of the inspection including the date and inspector on the corresponding form entitled "Fire Hydrant Inspection", route to the Maintenance Supervisor, Engineering Superintendent and file in S-19 Fire Mains and Valves. A copy of the inspection shall be routed to each area supervisor. Records shall be maintained for not less than one year and not more than two years.

Superseding Date: _____

TITLE: HYDROSTATIC TEST OF UNDERGROUND FIRE MAINMECHANICAL INSTRUCTIONSPROCEDURE:1. General

The underground fire main, including sprinkler systems, shall be hydrostatically tested annually to 50 psi above the operating pressure or 150 psi, whichever is greater. The purpose is to determine the underground pipe ability to withstand pressures that may result from either water hammer (surge) or operation of the fire pump. Results of the test shall be recorded on the corresponding form and placed on file in S-19 Fire Mains and Valves.

2. Inspections

- a. Plant personnel and ADT shall be notified in accordance with Safety Procedure No. 44, Fire Valve Shut Off.
- b. Shut off the 8" valve from the water tower up in the west elevator penthouse. Open the 2" drain valve on the bottom of the water tower line in 1B Basement and drain the line. This will allow any leak through the check valve during the test to be observed.
- c. Close both valves from the 8" city water supply line to the fire main. These are located in a vault by #1 hose house.
- d. Shut off the diesel fire pump.
- e. If possible, position a man at various points around the fire main so that all portions of the line are visible.
- f. Using the jockey pump, slowly increase the pressure in the fire main by slowly raising the upper limit on the pump's mercoid pressure switch located above the pump.
- f. Raise the pressure until it reaches 50 psi above the operating pressure or 150 psi, whichever is greater. The operating pressure of the fire main is the pressure indicated on the fire pump discharge gauge under no flow (except the relief valve) conditions when the fire pump is at full operating speed.
- g. Throttle the discharge valve at the jockey pump to limit flow.
- h. Hold hydrostatic pressure for 30 minutes, observing gauges at all times.

- i. Any sudden drop in pressure downstream of the throttled valve indicates a large leak or rupture. The pump should be shut down, the leak located and isolated by means of sectional control valves and repaired. Another hydrostatic test should follow any repairs.
- j. At the end of the test, return the jockey pump's mercoid pressure switch to its original setting.
- k. Reduce the pressure in each of the sprinkler risers by opening the draw off valve until the riser pressure falls to the normal pressure.
- l. Open the water tower valve.
- m. Open city water valves.
- n. Turn power on to the diesel fire pump.

RECORDS:

Results of the test shall be recorded on the form "S-19 Annual Hydrostatic Test of Underground Fire Main", including the date, test pressure, duration, how it was obtained and results. The test results should be routed to the Maintenance Supervisor, Engineering Superintendent and then placed on file in S-19 Fire Mains and Valves with a copy sent to the area supervisors. Records shall be maintained for not less than three years and not more than five years.

DATE: May 29, 1981S-26SUPERSEDING: December 22, 1971MECHANICAL INSTRUCTIONS

:::

TITLE: FIRE DOOR INSPECTIONPROCEDURE:1. General

All plant fire doors shall be inspected on a monthly basis. Adjustments and repairs shall be made at time of inspection.

2. Inspection

Doors shall be inspected for the following items:

- a) Access not obstructed by skids, drums, etc.
- b) Condition of doors, tracks, rollers, stops, bolts, wire rope and counterweights.
- c) Test for proper operation.

RECORDS

The attached list "Fire Doors" shall be used as a check list to insure that all doors are checked. Work done shall be noted on attached form S-26, and repairs made at time of inspection. Route copy through Maintenance Supervisor, Engineering Superintendent, and to File. Records shall be maintained for not less than 1 year and not more than 2 years.

S-29

Date: 5/22/81Superseding Date: 1/14/76TITLE: DRY CHEMICAL EXTINGUISHING SYSTEM (Ref. F6A)MECHANICAL INSTRUCTIONSPROCEDURE:1. General

Dry chemical extinguishing systems shall be inspected and tested at intervals as noted below. Maintenance of the systems and re-charging of cylinders will be done as shown in the Ansul Maintenance Manual. Repairs shall be made at time of inspection. Records shall be kept as noted below in "Records".

2. Inspectionsa. Quarterly - Visual

1. Note general appearance of Ansul Automan, Dry Chemical Shell and associated equipment for damage or corrosion.
2. Check nameplates for readability.
3. Check lead and wire on ring pin in red strike button. Replace if missing or broken.
4. Check visual release indicator position - should be in cocked position.
5. Check piping, fittings, blow-off caps, nozzles and detectors for mechanical damage or corrosion.
6. Record date of inspection.

b. Semi-Annually

1. Weigh cylinder cartridge and replace if it is 1/2 ounce or more below weight stamped on cartridge.
2. Install lock bar in position to prevent discharge, remove wire seal and unscrew cartridge which has a right hand thread.
3. Inspection of paper seal in line 3/4" between union.
4. Remove lock bar and test trip mechanism. Replace lock bar.
5. After weighing the cartridge, screw it back into place, replace seal wire and remove lock bar.

c. Annually1. Examine Powder

- a. Remove fill cap from dry chemical shell.
- b. Make certain shell is full and that the dry chemical flows freely. Remove a small portion from the top center of the charge with a small scoop. If no lumps are found, the dry chemical is in satisfactory condition.
- c. If lumps are present, remove one with fingers and drop from a height of 4" to a hard surface. If the lump breaks apart completely, the chemical is in satisfactory condition. If the lump does not break, replace the charge.
- d. Examine fill cap threads and gaskets to see that they are in good condition. Clean the seating surfaces and replace cap tightly.

RECORDS:

The attached "Dry Chemical Inspection" form is to be filled out and routed to Maintenance Supervisor, Engineering Superintendent and to file. Make notations of any repairs or adjustments made at time of the inspection. Records shall be maintained for not less than two years and not more than four years.

Date: July 12, 1977Superseding Date: 2/10/76Written By: F. J. McAllisterApproved By: [Signature]Procedure No. 19-ASubject: EMERGENCY CONTROL PLAN A - FIRE,
EXPLOSION AND OTHER INTERNAL INCIDENTSOUTLINESection I - Emergency Control Plan - Day Shift - 8:00 a.m. - 4:30 p.m.

- A. Emergency Organization
- B. Job Descriptions

Section II - Emergency Control Plan - Afternoon Shift - 4:00 p.m. - 12:00 a.m.
And Midnight Shift - 12:00 a.m. - 8:00 a.m.

- A. Emergency Organization
- B. Job Descriptions

Section III - Procedures - Emergency Control Plan - All Shifts

- A. Sounding the Alarm
- B. Call-In Procedure
- C. Emergency Control Procedures
- D. Evacuation Procedures
- E. Role of Plant Fire Brigade
- F. Communications
- G. City Fire Department
- H. Personnel Inventory
- I. Management Consultation
- J. Information to Media and Outside Contacts
- K. Sounding the All-Clear

Section IV - Call-In ProcedureSection V - Location of Fire Alarm Boxes

- A. List of Box Locations
- B. Plant Map

SECTION I-A
EMERGENCY ORGANIZATION

PLAN A

DAY SHIFT 8:00 a.m. - 4:30 p.m. - MONDAY THROUGH FRIDAY

LOCATION	FUNCTION	PLANT FUNCTION
<u>Control Center</u> <u>Main Office</u> Alt. Old Gatehouse [Radio] *	Coordinator	Production Sup't.
	Asst. Coordinators	"Dulux" Area Supv. Technical Supervisor
	Information and Communications Chief	Employee Relations Superintendent
	Alternate	Assistant "Dulux" Area Supervisor
<u>Scene of Emergency</u> [Radio] *	Disaster Chief Ass't. Disaster Chief Brigade Chief Assistant Brigade Chief Environmental Cont. Coord. - Fire Brigade	Plant Engineer Maint. Supervisor Shift Supervisor Grinding Floor Foreman Plant Engineer Safety Engineer Plant Personnel
<u>New Gatehouse</u> [Radio]	Personnel Control Chief Assistant Pers. Control Chief Alternate	Personnel Assistants Personnel Assistant Office Manager
	Assistant Traffic Cont.	Warehouse Foreman
	-	Guard
<u>Old Gatehouse</u> [Radio Monitor]	Security and Traffic Control	Service Area Supv.
<u>Medical</u> Main Office Alternate Mechanical Shop Office	First Aid	Plant Doctor
		Plant Nurse
		3 Medical Assistants
<u>Power House</u> [Radio Monitor]	Emergency Squad	Maintenance Foreman and Mechanics (2)

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76Section 1-B - Job Descriptions - 8:00 a.m. - 4:30 p.m. Shift(1) COORDINATOR

The PRODUCTION SUPERINTENDENT will act as COORDINATOR and will set up CONTROL CENTER in his office. (Alternate OLD GATE HOUSE). Communications will be by two-way radio kept in his office. The COORDINATOR will be in overall charge of the emergency operation. He will establish and maintain communications with the DISASTER CHIEF, the NEW GATE HOUSE and the OLD GATE HOUSE. He will advise the DISASTER CHIEF when a missing persons search is necessary, determine the necessity for plant evacuation and when the "All Clear" signal is to be sounded.

(2) ASSISTANT COORDINATORS

The "DULUX" AREA SUPERVISOR and TECHNICAL SUPERVISOR will act as ASSISTANT COORDINATORS and report to the CONTROL CENTER. They will assist the COORDINATOR as directed and will act as COORDINATOR in his absence.

(3) DISASTER CHIEF

The PLANT ENGINEER will act as DISASTER CHIEF and will be in charge of control procedures at the scene. A two-way radio, kept at the NEW GATE HOUSE will be brought for his use in communications. He will organize search efforts when directed by the COORDINATOR. He will be responsible for the safety of personnel in the area and will notify the COORDINATOR when he feels that the "All Clear" signal can be given.

(4) BRIGADE CHIEF

The SHIFT SUPERVISOR will act as BRIGADE CHIEF and will assist the DISASTER CHIEF. He will direct the FIRE BRIGADE until the arrival of the CITY FIRE DEPARTMENT. The FIRE BRIGADE will then be relieved and the BRIGADE CHIEF will then direct the activities of the CITY FIRE DEPARTMENT.

(5) SECURITY AND TRAFFIC CONTROL CHIEF

The SERVICE AREA SUPERVISOR will act as SECURITY AND TRAFFIC CONTROL CHIEF and will report to the OLD GATE HOUSE. He will supervise traffic at the main entrance so that emergency vehicles have free access. Non-emergency vehicles will be denied entrance and he will guard plant property. He will not allow the media to enter unless authorized by the INFORMATION CONTROL CHIEF. He will assist in Plant evacuation if directed by the COORDINATOR. A radio monitor is kept at the GATE HOUSE to assist in communications.

(6) TRAFFIC CONTROL ASSISTANT

The WAREHOUSE FOREMAN will act as TRAFFIC CONTROL ASSISTANT. He will report to the NEW GATE HOUSE and work with the WATCHMAN in clearing the streets and directing emergency vehicles to the scene.

* (7) SAFETY ENGINEER

SAFETY ENGINEER will report to the scene and assist the DISASTER CHIEF as required.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76

(8) INFORMATION AND COMMUNICATIONS CHIEF

The EMPLOYEE RELATIONS SUPERINTENDENT will act as INFORMATION AND * COMMUNICATIONS CHIEF (alternate, ASSISTANT "DULUX" AREA SUPERVISOR) and will report to the CONTROL CENTER. He will handle all contacts with the media and, with the approval of Management, shall give out information, issue bulletins and authorize photographs. Notification to Wilmington may also be handled by the INFORMATION CHIEF and/or PLANT MANAGER. He will consult with COORDINATOR and PERSONNEL CONTROL CHIEF regarding notification of families of injured personnel. He is the only authorized contact for the relatives of employees calling the plant.

(9) PERSONNEL CONTROL CHIEF

The PERSONNEL ASSISTANTS will act as PERSONNEL CONTROL CHIEF (alternate OFFICE MANAGER). They will report to the NEW GATE HOUSE where a two-way radio is available for communications. They will receive reports from personnel assembly points and from the WATCHMAN. They will advise COORDINATOR of persons not accounted for.

(10) ASSISTANT DISASTER CHIEF

The MAINTENANCE SUPERVISOR will report to the scene and act as ASSISTANT DISASTER CHIEF. He will advise the DISASTER CHIEF as to nature of the emergency, materials involved and safety consideration. He will assist the BRIGADE CHIEF in directing the FIRE BRIGADE.

(11) WATCHMAN

The WATCHMAN will always be at the NEW GATE HOUSE. He will assist in traffic control and work with the PERSONNEL CONTROL CHIEF in checking out all visitors, contractors and truck drivers. When the Gamewell Alarm sounds he will call the TOLEDO FIRE DEPARTMENT. If the ADT calls the WATCHMAN to report an alarm on the Sprinkler System, he will notify the PLANT ENGINEER for investigation.

(12) FOREMEN (INCLUDING ALL FIRST LINE SUPERVISION)

All FOREMEN will insure that their area emergency procedures have been completed. They will check for evacuation of the area, account for their personnel and send a "Personnel Inventory Card" to the PERSONNEL CONTROL CHIEF at the NEW GATE HOUSE. If assigned to other emergency duties, he shall assign a substitute to perform this task.

If the emergency is in his area, the FOREMAN will initiate and direct control procedures until relieved by the FIRE BRIGADE.

The RESIN KETTLES are normally not shut down if the emergency is not in their area. The DISASTER CHIEF will evaluate the situation and make recommendations to the COORDINATOR on Resin shut down. Sounding of a siren on the second floor of Resin Area is signal for shut down and evacuation * of Resin Area. A radio monitor and two-way radio is kept in the Resin Office to assist in communications.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76(13) MEDICAL PERSONNEL

PLANT PHYSICIAN, NURSE and three ASSISTANTS from SMALL BATCH and/or CONTROL LABORATORY will report for duty in the FIRST AID ROOM. Alternate location, MECHANICAL SHOP OFFICE AREA.

- (14) The ENVIRONMENTAL CONTROL COORDINATOR, who is also the DISASTER CHIEF, will report to the scene and evaluate the situation for emissions, spills, or odors. He will radio his findings to the COORDINATOR and if necessary have the INFORMATION CHIEF contact TOLEDO POLLUTION CONTROL and advise them of the situation and action which will be taken.

(15) FIRE BRIGADE

The FIRE BRIGADE will report to the scene or HOSE HOUSE nearest the FIRE ALARM BOX sounded and follow instructions of the BRIGADE CHIEF or DISASTER CHIEF.

- * FOAM GENERATOR AND EMERGENCY TRUCK - Several MECHANICS have been trained in it's operation. Upon the sounding of an alarm, the nearest MECHANIC will start up the truck, sound the siren and then proceed to the designated HOSE HOUSE.

THE EMERGENCY SQUAD - Will report to the BOILER ROOM and wait instructions by RADIO MONITOR or messenger from the DISASTER CHIEF. The MONITOR is kept in the BOILER ROOM ELECTRICAL CONTROL ROOM at all times.

SECTION II-AEMERGENCY ORGANIZATIONPLAN A4 - 12 AND 12 - 8 SHIFTS, MONDAY THROUGH FRIDAY

LOCATION	FUNCTION	PLANT FUNCTION
<u>Control Center</u> <u>New Gate House</u> [Radio] *	Coordinator	Control Lab Foreman
	Personnel Control Chief	Filling Floor Foreman
		Watchman
<u>Scene of Emergency</u> [Radio] *	Disaster & Brigade Chief	Shift Supervisor
	Assistant	Grinding Floor Foreman (See Item 7)
	Fire Brigade	Plant Personnel
<u>Old Gate House</u> *	Security and Traffic Control	Mixing Floor Foreman
	Assistant Security and Traffic Control	Warehouse Foreman (4:00-12:00 Shift only)

NOTE: The above persons shall handle the emergency and perform their assigned duties until replaced by members of the regular Day Shift Organization who have arrived at the plant in response to the "Call-In" Procedure.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76Section II-B - Job Descriptions - 4:00 - 12:00 and 12:00 - 8:00 Shifts(1) COORDINATOR

The CONTROL LABORATORY FOREMAN will act as COORDINATOR and will set up CONTROL CENTER in NEW GATE HOUSE. He shall also act as INFORMATION CHIEF. Communications will be by a two-way radio kept in the GATE HOUSE. The COORDINATOR will advise the DISASTER CHIEF when a missing persons search is necessary, determine the necessity for plant evacuation and when the "All Clear" signal is to be sounded.

As INFORMATION CHIEF he will handle all contacts with the media and issue reports and authorize photographs after consultation with the PLANT MANAGER. He is the only authorized contact for the relatives of employees calling the plant.

(2) DISASTER CHIEF

The SHIFT SUPERVISOR, (DISASTER AND BRIGADE CHIEF) will act as the DISASTER CHIEF. He will be in charge of control procedures at the scene. A two-way radio, kept in the SHIFT SUPERVISOR'S OFFICE will be taken to the scene and used for communications. He will direct the FIRE TEAM and advise the CITY FIRE DEPARTMENT. He will organize search efforts when directed by the COORDINATOR. He will be responsible for the safety of personnel in the area and will notify the COORDINATOR when he feels that the "All Clear" signal can be given.

(3) SECURITY AND TRAFFIC CONTROL CHIEF

- * The MIXING FLOOR FOREMAN will act as SECURITY AND TRAFFIC CONTROL CHIEF and will report to the OLD GATE HOUSE. On the 4:00 - 12:00 shift only, he will be assisted by the WAREHOUSE FOREMAN. He will supervise traffic at the main entrance so that emergency vehicles have free access. Non-emergency vehicles will be denied entrance and he will guard plant property. He will not allow the media to enter unless authorized by the COORDINATOR. He will assist in evacuation if directed by the COORDINATOR. A Radio Monitor is kept at the GATE HOUSE to assist him in communications.

(4) PERSONNEL CONTROL CHIEF

The FILLING FLOOR FOREMAN will act as PERSONNEL CONTROL CHIEF and will report to the NEW GATE HOUSE where phones and a two-way radio are available. He will receive reports from personnel assembly points and from the WATCHMAN. He will advise COORDINATOR of persons not accounted for.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76(5) WATCHMAN

If the Gamewell Alarm sounds, the WATCHMAN will call the FIRE DEPARTMENT and then contact the persons listed on the "Call-In Procedure". If he is on the plant alone and discovers a fire, he will call the FIRE DEPARTMENT and the "Call-Ins" even though no alarm was sounded.

If ADT calls to report a Sprinkler Alarm he will notify the "DULUX" SUPERVISOR for investigation. If a fire exists, the Gamewell Alarm will be sounded. The WATCHMAN will open the gate for emergency vehicle entrance and direct them to the scene.

(6) FOREMEN

The FOREMEN will insure that their area emergency procedures have been completed. They will check for evacuation of the area, account for their personnel and send a "Personnel Inventory Card" to the PERSONNEL CONTROL CHIEF. If assigned to other emergency duties, he shall assign a substitute to perform this task.

If the emergency is in his area, the FOREMAN will initiate and direct control procedures until relieved by the FIRE BRIGADE.

THE RESIN KETTLES are normally not shut down if the emergency is not in their area. The DISASTER CHIEF will evaluate the situation and make recommendations to the COORDINATOR on RESIN shut-down. Sounding of a siren on the second floor of RESIN is a signal for the immediate shut-down and evacuation of the RESIN AREA. RESIN AREA SUPERVISOR to remain in area and advise COORDINATOR of conditions by radio.

- * A radio monitor and two-way radio is also kept in the RESIN OFFICE to assist in communications.

(7) FIRE BRIGADE

The FIRE BRIGADE shall report to the scene and follow instructions of the DISASTER CHIEF or BRIGADE CHIEF.

- * The GRINDING FLOOR FOREMAN will drive the EMERGENCY VEHICLE to the HOSE HOUSE nearest the alarm so emergency equipment will be available if needed.

The SOLVENT RECOVERY OPERATOR will report to the BOILER ROOM to start or to observe operation of the FIRE PUMP.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76Section III - Procedures - Emergency Control Plan - All Shifts

Plant Fire Protection initially relies on immediately available trained plant personnel for limited fire fighting duties. To provide for more extensive fire control capabilities, the City Fire Department responds in a matter of minutes to calls from the WATCHMAN or ADT.

A. SOUNDING THE ALARM

- * 1. Employee on scene will sound alarm at nearest Gamewell Box and remain at box to direct BRIGADE. The WATCHMAN will call the CITY FIRE DEPARTMENT.
- 2. The SHIFT SUPERVISOR on nights will sound the GAMEWELL ALARM after ADT advised that they have received a Sprinkler Flow Alarm. ADT will call the CITY FIRE DEPARTMENT immediately when they receive a Sprinkler Flow Alarm.

B. CALL-IN PROCEDURE (Nights and Week-ends)

As soon as the CITY FIRE DEPARTMENT has been called, the WATCHMAN will contact the persons listed on the "Call-In Procedure" (Ref. to Sect. IV.)

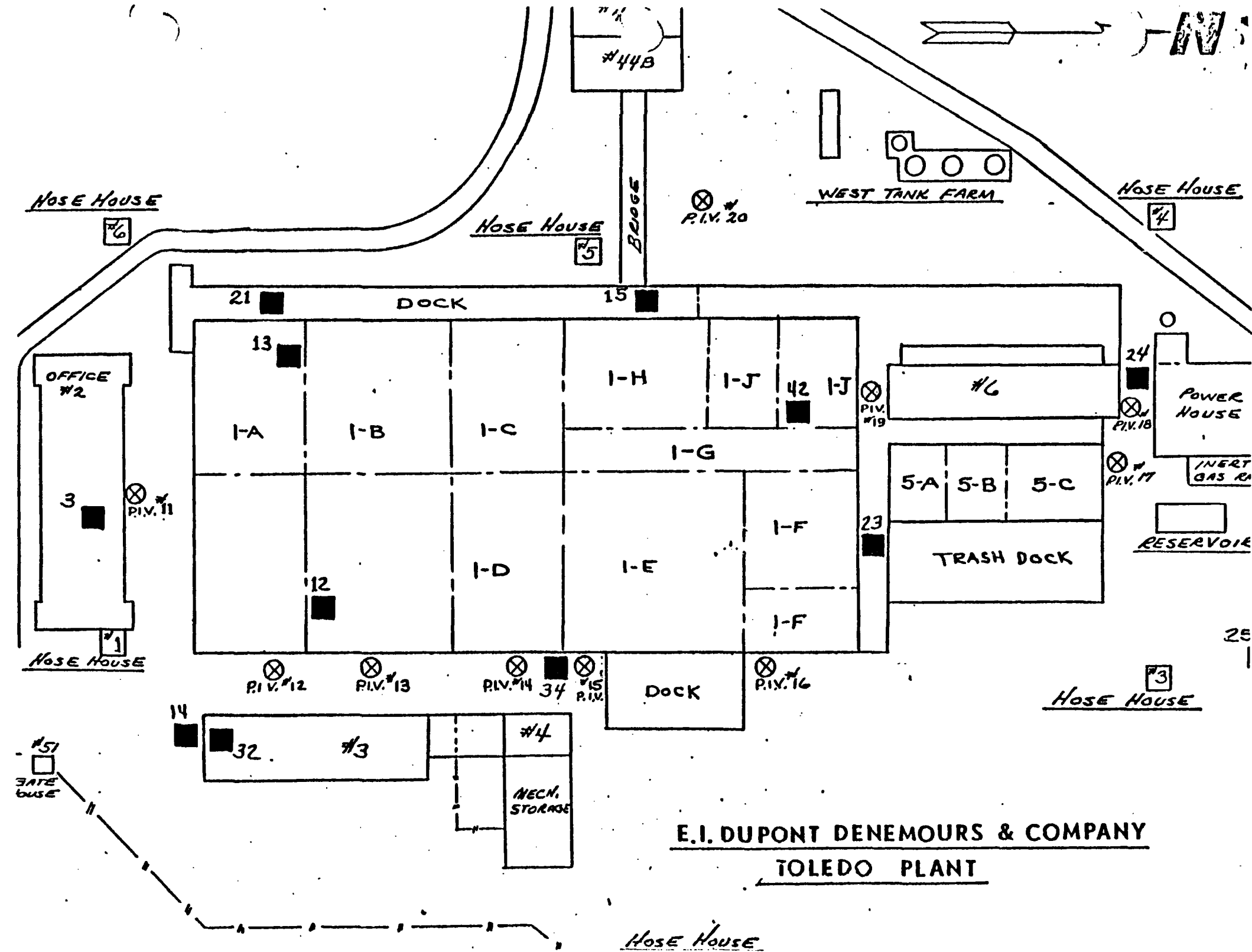
C. EMERGENCY CONTROL PROCEDURES (See Job Descriptions)

Employees at the scene of the fire shall become the first line fire fighting team. They shall perform the following duties as long as they can do so without exposing themselves to undue personal injury.

- 1. Sound the nearest Gamewell Alarm.
- 2. Alert nearby personnel.
- 3. Fight fire with available extinguishers and/or water hose lines in accord with their training.
- 4. Carry out their area emergency control procedures including closing all manhole covers and fire doors.
- 5. Upon arrival of FIRE BRIGADE, evacuate to their assigned outside locations.

D. EVACUATION PROCEDURES AND INVENTORIES

- 1. All persons not members of the emergency organization shall evacuate to designated outside areas and will be inventoried at that point. The RESIN KETTLES will normally continue operating unless notified to shut down by the COORDINATOR.
- 2. Visitors and contractors shall report to assembly point east of the NEW GATE HOUSE and will be inventoried by the WATCHMAN.
- 3. Outside Truck Drivers shall remain in their trucks and will not move them unless instructed to do so by the DISASTER CHIEF.



Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76

4. Each evacuation point will be inventoried by a FOREMAN or designated representative. A "Personnel Inventory Card" will be sent by messenger to the NEW GATE HOUSE. All persons known to be in the plant must be accounted for.
5. In the event of extreme danger from fire, explosion, emissions, etc., it may be necessary to evacuate the Plant. Procedure 19-C should be triggered if this decision is made.

E. ROLE OF THE PLANT FIRE BRIGADE

1. The DISASTER CHIEF and the FIRE BRIGADE shall assume control of the fire fighting activities as soon as possible. They will relieve the "on the scene" employees who have been fighting the fire.
2. Upon arrival of the CITY FIRE DEPARTMENT the FIRE BRIGADE will be relieved and the DISASTER CHIEF will direct the CITY FIRE DEPARTMENT in their activities.

F. COMMUNICATIONS

1. Two-Way Radios

- a. DAY COORDINATOR has one which is kept in the PRODUCTION SUPERINTENDENT'S OFFICE. NIGHT COORDINATOR has one kept in the NEW GATE HOUSE.
- b. DAY DISASTER CHIEF will have one brought to him from the NEW GATE HOUSE by a designated BRIGADE MEMBER. NIGHT DISASTER CHIEF has one kept in SHIFT SUPERVISOR'S OFFICE.
- c. PERSONNEL CONTROL CHIEF will have one in the NEW GATE HOUSE where it is normally kept.
- * d. RESIN DEPARTMENT has one in the FOREMAN'S OFFICE.

2. Telephones

Telephone operator will switch to night connections as follows:

- a. NEW GATE HOUSE - Bell rings - Guard can answer either #350, #290, or #288. Communicate to OLD GATE HOUSE by dialing 304 or 305.
- * b. OLD GATE HOUSE - Use extensions #288 and #305. Communicate to NEW GATE HOUSE by dialing #290 or #350.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/763. Power Failure - Emergency Phones

- a. During power failure, the following phones are the emergency stations for incoming and outgoing calls:

<u>OWNER</u>	<u>TRUNK NUMBER</u>
Shift Supervisor	478-1212
Shipping Foreman	478-1213
Resin Foreman	478-1214
Plant Engineer	478-1215
Power House	478-1216
Production Superintendent	478-1217
Gate House	478-1211

4. Radio Monitors

Monitors are set for the frequency of the two-way radios and will receive signals only.

- a. Resin Foreman's Office
- b. Old Gate House
- c. Power House

G. ROLE OF CITY OF TOLEDO FIRE DEPARTMENT

- 1. The TRAFFIC CONTROL CHIEF and the WATCHMAN will have the gate and company streets clear for passage of emergency vehicles. WATCHMAN shall direct fire equipment to the scene.
- 2. The FIRE DEPARTMENT PUMPER may connect a unit at No. 1 hydrant on the east end of the OFFICE BUILDING.
- 3. The DISASTER CHIEF will brief the CITY FIRE CHIEF on the details of the emergency, safety considerations, materials involved, etc.

H. PERSONNEL INVENTORY

The PERSONNEL CONTROL CHIEF will report to the NEW GATE HOUSE and receive all reports showing area personnel inventories including inventories of contractors, visitors and truck drivers. He will advise the COORDINATOR at once of any missing persons so that a search may begin.

I. MANAGEMENT CONSULTATION

The PLANT MANAGER, if on the plant, shall handle contacts with Wilmington and to provide guidance and information to the INFORMATION CHIEF concerning information to be released locally. In his absence, this shall be handled by the COORDINATOR.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76J. INFORMATION TO MEDIA AND OUTSIDE CONTACTS

Incoming phone calls, news reporters, photographers, shall be handled by the INFORMATION CHIEF (by the COORDINATOR on the night shifts). He shall be responsible for issuing bulletins and authorizing photographs. He shall handle notification of families of injured personnel and questions from families and relatives of employees.

It is most important that the INFORMATION CHIEF be the ONLY source of information to the news media and relatives otherwise the chance for conflicting information is great. If possible, facts should be written down to insure uniformity.

* K. SOUNDING THE "ALL CLEAR"

The COORDINATOR, guided by information from the DISASTER CHIEF, shall determine when the "All Clear" signal is to be sounded and shall instruct the WATCHMAN to do so. The "All Clear" signal is a siren that will be sounded one time for 15 seconds.

Procedure No. 19-ADate: 8-9-82Superseding Date: 7-12-77Section IV - "Call-In" Procedure**TOLEDO FINISHES PLANT EMERGENCY CALL IN PROCEDURE****PLANT FIRE ALARM - REGULAR GAMEWELL SYSTEM**

When the Gamewell fire alarm has been sounded, the Watchman will call the City Fire Department. The Call-In Procedure shown below will be initiated by the Watchman at all times other than on the day shift when plant is in full operation.

ADT - AUTOMATIC SPRINKLER SYSTEM ALARM

If the automatic sprinkler alarm registers with ADT, then ADT will call the Fire Department and Guard in turn. If the plant is in full operation, the Guard will call.

On days - Plant Engineer or Maintenance Supervisor

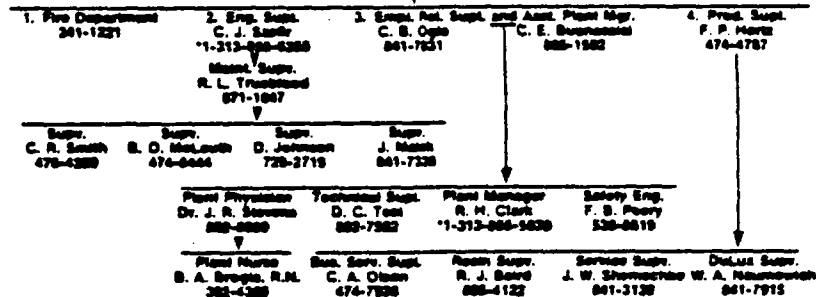
On 4 - 12 shift - Shift Supervisor

On 12 - 8 shift - Ranking Supervisor May utilize Call-In Procedure

If the plant is ON PARTIAL OPERATIONS, the Guard will call the Shift Supervisor or Ranking Member of Supervision who may utilize the Call-In Procedure.

If the Guard is asleep in the plant, he will prepare for the arrival of the Fire Department and assist in locating the source of the sprinkler signal. He will then return to the Gate House and initiate the Call-In list.

Plant Guard



*Toll Call - Except from Toledo Exchange

Information regarding emergencies will be given to news reporters, and to Wilmington Management and the Company's Public Relations Department, but only with the approval of Toledo Plant Management.

WILMINGTON J. C. Darshall 686-5331 (Area Code 302) (Wilmington, Del.)
MANAGEMENT C. W. Slatt 686-0913 (Area Code 302) (Wilmington, Del.)

One of the above will advise the Public Relations Department, Wilmington.

Procedure No. 19-ADate: July 12, 1977Superseding Date: 2/10/76Section V - Location of Fire Alarm Boxes

- 3 First Floor, Building 2, MAIN OFFICE
- 1-2 S.E. Corner, Building 1-B, THIRD FLOOR "DULUX"
- 1-3 N.W. Corner, Building 1-A, SECOND FLOOR "DULUX"
- 1-4 S.W. Wall, Building 3, MECHANICAL SHOP
- 1-5 West Dock, Building 1-H, CHEMICAL
- 2-1 West Dock, Building 1-A, RECEIVING
- 2-3 North Wall, Building 1-F, RESIN TANK ROOM
- 2-4 South Wall, Building 7, BOILER ROOM
- 2-5 Post, South of YARD STORAGE TANKS
- 3-2 South End, Building 3, LAB SECOND FLOOR, SALES DEVELOPMENT LABORATORY
- * 3-4 South Wall, SHIPPING DOCK
- 4-2 Resin Stairway, Building 1-J, SECOND FLOOR

THE ABOVE FIRE ALARM SIGNALS WILL SOUND FOUR TIMESOther Plant Alarms Will Sound As Follows:

- | | | |
|----|-------------------|------------|
| 10 | Inside Evacuation | 4 Times |
| 2 | Plant Evacuation | Repeatedly |

*

ALL TESTS WILL BE PRECEDED BY ONE SIGNALTHE ALL CLEAR SIGNAL IS A SIREN SOUNDED ONE TIME FOR 15 SECONDS.

Procedure No. 19-BDate: February 6, 1983Superseding Date: 8-3-81Written By: C. J. SzafirApproved By: C. J. Szafir

Subject: EMERGENCY CONTROL PLAN FOR
WEATHER EMERGENCIES

This procedure outlines an emergency control action plan designed to protect personnel in the event of severe weather such as tornadoes, hurricanes, wind storms, severe lightning, earthquakes, etc. The procedure provides for adequate advance warning, an orderly shutdown of the plant, and evacuation to the safest portion of the building structure in 1-A basement.

I. OUTLINE

- A. Decision to Activate Emergency Procedure
- B. Evacuation Procedure
- C. Sounding the All Clear
- D. Tornado Information

II. DETAIL

A. Decision to Activate Emergency Procedure

In times of severe weather, the Protection Coordinator (Production Superintendent on days, and the Shift Supervisor on 4-12 or 12-8 shift) will notify the guard to activate the inside evacuation alarm whenever he feels that emergency precautions are advisable. He will also have the alarm activated whenever a tornado warning is sounded by the local authorities.

The signal for severe weather alert is 10 consecutive rings to be repeated 4 times.

B. Evacuation Procedure

- a. As soon as the severe weather alarm has been sounded, all personnel shall carry out the shutdown procedures for their areas, leave their work areas, and assemble at designated locations in Building 1-A Basement. If possible, the COORDINATOR shall alert supervision in advance to permit a more orderly shutdown of operations.

Responsible supervision shall insure that visitors, contractor employees, truck drivers, etc., are escorted to 1-A Basement and accounted for on the guard's record.

II. DETAIL (continued)B. Evacuation Procedure (continued)b.. Watchman Response

After the alarm is sounded, the GUARD shall close the vehicle and pedestrian gates (gates shall NOT be locked) at the plant entrance. He shall then take the police radio receiver, the radio broadcast receiver and the visitor register to Building 1-A Basement Control Center.

c. Response by Plant Emergency Groups

Members of the PLANT EMERGENCY CONTROL ORGANIZATION and FIRE BRIGADE shall assemble at designated locations in 1-A Basement. They shall remain there on a standby basis to control fires or other conditions which may develop during the emergency.

d. Personnel Inventory

FIRST LINE SUPERVISORS shall check for complete evacuation of their areas, account for each individual under their supervision, and promptly send a "Personnel Inventory Card" to the PERSONNEL CHIEF. (Personnel Supervisor on days, Lab Supervisor on Shifts). The PERSONNEL CHIEF shall advise the COORDINATOR of the inventory of personnel promptly and of any subsequent changes. This shall include the accounting for visitors, contractor's employees, truck drivers, holdovers from previous shifts, etc., as determined from the GUARD'S records.

e. Leaving the Plant During Emergency

Persons who choose to leave the plant shall be permitted to do so after they have reported to their supervision. Visitors, contractor's employees, etc., shall be permitted to leave after they have been checked out on the GUARD'S records.

f. Communications

All service chiefs shall carry their two-way radios when reporting to 1-A Basement for possible use during emergency. The outside telephone lines shall be switched to available phones in 1-A Basement prior to evacuation. This shall be done by the TELEPHONE OPERATOR on the day shift and by the ASSISTANT BRIGADE CHIEF (Mixing floor supervisor) on the afternoon and midnight shifts.

Outside news shall be received via the radio broadcast receiver and the police radio receiver brought to the CONTROL CENTER by the GUARD.

II. DETAIL (continued)C. Sounding the All Clear

The decision to sound the All Clear will be made by the Protection Coordinator with Safety and Security foremost in his mind. The Guard will be instructed to sound the All Clear siren which is located at the Gate House.

CJS:djw

TORNADO INFORMATION

The National Weather Service has the tools and data to forecast with a fair degree of accuracy, weather conditions that are likely to generate tornadoes. The National Weather Service, as dictated by atmospheric conditions, issues "Tornado Watch" bulletins from Kansas City for specific geographical areas. This information is transmitted to all local weather bureaus as well as to the news media. "Watches" normally will be issued hours before the tornado conditions are expected to develop or move into an area.

Once a "Tornado Watch" is instituted, local weather conditions are monitored by the police, private citizens, and the local weather bureau. If a tornado is reported in the area or in an area to the immediate southwest of Lucas County, then a tornado warning is sounded.

Local radio and television stations are alerted and WSPD has advised they have two procedures, one for a Watch and one for a Warning:

WATCH - WSPD will broadcast notice of the Watch as soon as practical in their programming and will repeat the broadcast every fifteen minutes. The All Clear will be given in a similar fashion.

WARNING - They will interrupt all programs with a severe weather warning announcement and repeat it every five to seven minutes. They will continue to update information as they receive it. They subscribe to a Weather Wire Service as well as receiving information from the Local Weather Bureau. The Wire Service has sometimes in the past provided updating and warnings ahead of the National Weather Service.

Plant procedures are for the Guard to monitor the police radio bands and WSPD whenever a Tornado Watch is in progress. If a tornado watch is sounded, the ranking member of supervision on the plant is advised immediately. He, in turn, reviews the situation and decides whether to activate the inside evacuation procedure or to post look-outs in addition to the Plant Guard, or any other appropriate course of action based on the circumstances at the time.

If the tornado warning is sounded, the ranking member of supervision will be notified and he will advise the Guard to activate the inside evacuation alarm. The decision to sound the "All Clear" will rest with the ranking member of supervision on the plant and will be made with safety and security foremost in his mind.

Attached is a copy of Tornado Information Sheet from the Toledo Lucas County Civil Defense Organization.

TORNADO INFORMATION...

WHERE TORNADOES CAN OCCUR:

Any place in the United States at any time of the year. They happen most frequently in the midwestern, southern, and central States from March through September.

HOW OFTEN DO THEY OCCUR:

The average number of days with tornadoes per year, based on records of recent years, ranged from 41 in Texas to less than 1 per year in States of the Northeast and Far West.

HOW TO RECOGNIZE A TORNADO:

Usually a funnel-shaped cloud, spinning rapidly, and extending toward the earth from the base of a thundercloud. When close by, it sounds like the roar of hundreds of airplanes.

TORNADO "WEATHER":

Hot, sticky days with southerly winds and a threatening, ominous sky. However, many such days occur without tornadoes.

CLOUDS:

Familiar thunderstorm clouds are present. An hour or two before a tornado, topsy-turvy clouds appear sometimes bulging down instead of up. The clouds often have a greenish-black color.

PRECIPITATION:

Rain, frequently hail, preceding the tornado, with a heavy downpour after it has passed.

TIME OF DAY:

Mostly between 3 and 7 p.m., but tornadoes have occurred at all hours.

DIRECTION OF TRAVEL:

In most cases they move from a westerly direction, usually from the southwest.

LENGTH OF PATH:

Usually 10 to 40 miles (the average length is 13 miles), but they may move forward for 300 miles.

WIDTH OF PATH:

The average width is about 250 yards, but they have cut swaths over a mile in width.

SPEED OF TRAVEL:

25 to 40 miles per hour average, but they have varied from stationary to 68 miles per hour.

WIND SPEED:

Estimated more than 300 miles per hour within the tornado.

CAUSES OF DESTRUCTION:

- (1) Violent winds which uproot trees, destroy buildings, and which create a serious hazard from objects blown through the air.
- (2) Differences in air pressure which can lift people and automobiles and can cause buildings to collapse.

Procedure No. 19-CDate: February 12, 1983Superseding Date: 8-31-81Written By: G. J. SzafirApproved By: *G. J. Szafir*

Subject: EMERGENCY CONTROL PLAN FOR
CIVIL DISORDERS

This procedure outlines an emergency control action plan to protect Plant personnel in the event of a bomb threat or other public emergencies.

I. OUTLINE

- A. Bomb Threat
- B. Riots or Demonstrations

II. DETAIL

A. Bomb Threat

a. Receiving a Bomb Threat

Any information received concerning the possibility of explosive or incendiary devices being present on the plant should be considered as factual and referred to the Protection Coordinator for prompt action. It is important to extract as much information as possible from the party making the threat. The forms attached at the end of this plan show the type of information which is important. These forms are available at the plant switchboard and at guardhouse for ready reference by those receiving a threat.

b. Sounding the Alarm

The Protection Coordinator will instruct the guard to sound the "Bomb Scare Evacuation" which is two rings repeatedly on the Gamewell system. The guard will then call the police and fire departments, notifying them of the nature of the emergency and requesting assistance. On night shifts and weekends, the guard shall follow the "call-in" procedure.

c. Evacuation Procedure

Upon hearing the evacuation alarm, each area will follow its shut-down procedure and then evacuate to the fence along Tremainsville Road. Head count will be handled in the usual manner and reports given to the Personnel Chief.

The Fire Brigade and Brigade Chief should assemble in the flagpole area in readiness to act if needed.

II. DETAIL (continued)A. Bomb Threat (continued)c. Evacuation Procedure (continued)

The Plant Manager, Assistant Manager, Protection Coordinator, Disaster Chief, Engineering Chief, Communications and Public Affairs Chief, Special Hazards Chief, and Personnel Chief shall report to the Guard House (main control center). The alternate location is the Credit Union Building.

The Protection and Transportation Chief will report to the main gate and limit entrance to the plant to authorized vehicles only.

d. Bomb Search

When requested by the Protection Coordinator, the Disaster Chief will organize a search for the explosive device. The police and fire departments will be utilized for the search along with members of the emergency control organization and volunteers from the wage roll.

Once a bomb or suspicious object is located, it should not be touched in any way by plant personnel. Police or fire department experts should be called to investigate and to handle removal, as necessary.

e. Sounding the All Clear

Any decision to return people to work or to send them home will be made by the Protection Coordinator based upon his consultations with the police department and other members of management. The "All Clear" siren shall be sounded for 5 seconds to return people to work following the emergency.

B. Riots or Demonstrations

The potential for riots, demonstrations, or other disorders occurring near the plant is considered minimal; however, if such disorders occur, prompt measures may be necessary to protect employees and property.

If such a disorder is developing, the Protection Coordinator will summon the emergency control organization to the gate house. The Protection Coordinator will evaluate the situation and take the appropriate action. Actions to consider are: evacuating personnel to 1-A basement; organizing the brigade; perimeter patrols; establishing observation posts on building roofs; etc.

II. DETAIL (continued)B. Riots or Demonstrations (continued)

It is the Protection and Transportation Chief's responsibility to secure all gates and to work with the Toledo Police Department to ensure fence-line protection. Police escort of personnel to and from the job may be required or it may be necessary to transport employees to and from work with Company vehicles or by commercial means.

It is the Communications and Public Affairs Chief's responsibility to keep employees away from the plant informed of the situation. This can be accomplished by means of telephone, radio, or television. The police radio located in the gatehouse should be monitored.

BOMB THREAT CHECKLIST

INSTRUCTIONS: Listen. Do not interrupt the caller!

NAME OF OPERATOR		TIME		DATE	
CALLER'S IDENTITY					
MALE		FEMALE		APPROXIMATE AGE: YEARS	
ORIGIN OF CALL					
LOCAL		LONG DISTANCE		BOOTH	
INTERNAL (from within building)					
If internal, leave plug in board.					
VOICE CHARACTERISTICS		SPEECH		LANGUAGE	
Loud		Soft		East	
High Pitch		Deep		Slow	
Raspy		Pleasant		Distorted	
Intoxicated		Other		Nasal	
				Foul	
				Other	
				Good	
				Poor	
				Other	
CENT		MANNER		BACKGROUND NOISES	
Local		Calm		Office	
Foreign		Rational		Factory	
Race		Coherent		Bedlam	
explain:		Deliberate		Animals	
		Righteous		Quiet	
				Mixed	
				Party	

BOMB FACTS

tn caller's
mission, ask:

KEEP CALLER TALKING.

WHEN WILL IT GO OFF?

Certain Hour Time Rema:

WHERE IS IT PLANTED?

Building Area

Did caller appear familiar with plant or building
by his description of the bomb location?

ACTION TO TAKE IMMEDIATELY AFTER CALL

NOTIFY YOUR SUPERVISOR. TALK TO NO ONE OTHER THAN INSTRUCTED BY YOUR SUPERVISOR

Write out the message in its entirety

ks:

DESCRIPTION OF CALLER'S VOICE

MALE _____ FEMALE _____

YOUNG _____ MIDDLE AGE _____ OLD _____

TONE OF VOICE

ACCENT _____

BACKGROUND NOISE

IS VOICE FAMILIAR? _____

IF SO, WHO DID IT SOUND LIKE? _____

REMARKS: _____

THREATENING PHONE CALL FORM

TIME CALL RECEIVED: _____ TIME CALLER HUNG UP: _____

EXACT WORDS OF PERSON PLACING CALL: _____

QUESTIONS TO ASK:

1. WHEN IS BOMB GOING TO EXPLODE? _____

2. WHERE IS THE BOMB RIGHT NOW? _____

3. WHAT KIND OF BOMB IS IT? _____

4. WHAT DOES IT LOOK LIKE? _____

5. WHY DID YOU PLACE THE BOMB? _____

PERSON (RECEIVING) (MONITORING) CALL: _____

DEPARTMENT _____ TELEPHONE NO. _____

HOME ADDRESS _____

HOME TELEPHONE NO. _____

DATE _____

Date: January 8, 1983Superseding Date: 8-3-81Written By: C. J. SzafirApproved By: *C. J. Szafir*

Subject: EMERGENCY CONTROL PLAN FOR
INDUSTRIAL INCIDENTS EXTERNAL
TO THE PLANT

This procedure is an emergency control action plan which describes how to protect plant personnel and property from industrial emergencies external to the plant.

I. OUTLINE

- A. External Explosions or Fires
- B. Railroad Emergencies

II. DETAIL

A. External Explosions or Fires

The potential for external explosions or fires having an impact on the Plant is minimal; however, under proper weather conditions burning debris could reach the Plant from a local house fire or from a fire or explosion at the closest industrial establishment.

The Protection Coordinator should be notified immediately of an external fire, and he will use his two-way radio to get the emergency control organization together in the gate house. The Protection Coordinator will evaluate the situation and take the appropriate action. Actions to consider are a fire watch; pulling fire hoses; wetting down buildings; shutdown of plant operations; etc. If the emergency occurs on the night shift, the guard should begin the call-in procedure.

B. Railroad Emergencies

The railroad runs along the west perimeter of the Plant and this means that the Plant could be exposed to railroad emergencies such as fires, explosions, spills, and fumes. The potential for this type of emergency occurring is minimal because the use of the track is infrequent and trains operate at very low speeds over this section of track.

If a rail emergency occurs, the Protection Coordinator should be notified immediately, and he will summon the emergency control organization to the gate house. Because the type of emergencies can be different, the Protection Coordinator should evaluate each situation, obtain advice from the emergency control chiefs and railroad, and then take the appropriate action. Actions to consider are establishing a fire watch; plant evacuation; wet down buildings (water cannons are available); monitor police radio; etc. On the night shift or weekends the guard should begin the emergency call-in procedure.

Subject: EMERGENCY CONTROL PLAN FOR
DELIBERATE DAMAGE

Several categories of deliberate damage may pose threats to personnel and property. These include malicious damage, sabotage, and direct enemy action including the potential of radioactive fall-out. This procedure describes how to react to these types of emergencies.

I. OUTLINE

- A. Sabotage and Arson
- B. Nuclear Attack

II. DETAIL

A. Sabotage and Arson

- a. Proper security procedures are essential in preventing sabotage and arson. For that reason the following procedures are in effect:
 - No visitors or contractors are allowed onto the Plant unless they sign in at the Gate House and then are given permission by a member of management to enter.
 - Parking of cars, pallets, drums, tools, or other materials that might be used as a stepladder is not allowed within ten feet of any plant fence.
 - Fences must be inspected routinely and be kept in good repair. Remove any overhanging tree limb which might provide easy access to the plant.
 - Exterior areas must be kept free of high grass or weeds, especially near the tank farms and outside drum storage areas.
 - All plant gates are kept closed and locked when the plant is not working. During the work week the main gate and pedestrian gate is open only from 7 a.m. until midnight.
- b. Should sabotage or arson occur, the Protection Coordinator should be immediately notified and he will evaluate the situation and take appropriate action. The action could include: calling the fire or police department; plant evacuation; or whatever is deemed necessary by the Protection Coordinator.

II. DETAIL (continued)B. Nuclear Attack

The Toledo Civil Defense siren will alert the Plant to enemy attack.
The Plant will respond by:

- Sounding the weather evacuation alarm (ten rings, four times). Upon hearing the alarm, plant personnel will shut down their equipment and report to the 1-A basement.
- The Protection Coordinator will explain the situation to the plant personnel and advise them to go to their families and seek a proper fall-out shelter.
- For those employees who wish to stay, the 1-A basement is the safest spot; however, it is not a fallout shelter and no food or supplies are stored there.

Subject: Spill ProcedureI. INTRODUCTION

The purpose of this Safety Procedure is to define basic safety procedures in cleaning up controlled spills on the plant site.

II. OUTLINE

- A. Types of spills
- B. Safety considerations of spill clean-up
- C. Cleaning spills of hazardous materials
- D. Miscellaneous and other references

III. DETAILA. Types of Spills

1. Uncontrolled spills - spills which effect off-plant environmental conditions, i.e., spills which enter waterways or off-plant property or result in an environmental pollution hazard to the surrounding plant property.
 - a. Management responsibilities and action guidelines are clearly defined in Standard Practice V-10 in the event of an uncontrolled spill.
2. Controlled spill - spills which are prevented from leaving the plant site which could present an environmental violation of local air/water pollution regulations.
 - a. Large controlled spill is one which requires more than one individual to effect a normal/safe clean-up operation.
 - b. Small controlled spill, defined nominally as 10 square feet or less, is one which requires one individual to effect a normal/safe clean-up operation.
 - c. Responsibility --
 - (1) Day Shift - The Area Supervisor will determine the action taken to effect proper clean-up.
 - (2) Second (4:00-12:00) and Third (12:00-8:00) - The shift supervisor will determine the action to be taken.
 - (3) In the event of a large controlled spill, Area Supervision will be required to notify the Safety Supervisor and Plant Management, as appropriate, to provide the extent and severity of the situation as a result of the spill.
 - (4) All care will be taken to:
 - (a) Insure that material does not enter the storm sewers.
 - (b) Provide whatever safety precautions may be necessary to prevent further damage, i.e., fires, explosions, harmful fume conditions, etc.

(c) Take the necessary safety precautions to provide for a safe, effective clean-up operation.

3. Restricted Materials Spills - spills of restricted material (MS coded materials) which present:

- a. Health hazard upon exposure.
- b. Refer to the appropriate Standard Practice for safe clean-up procedures.

B. Safety Considerations of Spill Clean-Up

1. Clean-up equipment.

- a. Non-sparking tools, shovels, squeegies are required for flammable spills.
- b. Scott Air Paks are required for spills of materials classified as S-2 or higher; flame retardant suits are required for flammable (-100°F CC) spills.

(1) The Shift Mechanic is trained to operate explosimeter if necessary.

- c. Fire Brigade should be in standby readiness in case of a fire.
- d. Area should be roped off and excess personnel removed from spill area.
- e. Equipment lockers are provided in the following areas:
 - (1) Resin 1G Alleyway
 - (2) 1st, 2nd, 3rd Floors - "Dulux"

2. Personnel.

- a. All personnel involved in spill clean-up will be required to wear appropriate protective equipment as assigned by Supervision.
- b. Assurance will be made that the area is safe and free of toxic and/or flammable vapors before operators are returned to the area for work assignments.

3. Process Equipment.

- a. All appropriate equipment will be shutdown, electrically, to prevent explosions, fires, etc.
- b. All manholes, entries into storm drains, roof drains, sanitary sewers should be closed or sealed off.

Procedure No. 42Date: 4/23/79Subject: Spill ProcedureSuperseding Date: 2/20/79C. Hazardous Materials Clean-Up (S-5, S-6, S-7)

1. Appropriate protective equipment will be provided in order to clean up spills of hazardous materials.
 - a. Resin Area Supervision will provide spill clean-up guidance during 8:00-4:30 shift.
 - b. R-C-T Foreman will provide guidance in the event of a hazardous material spill on 4:00-12:00 and 12:00-8:00 shifts.
 - c. Information regarding safe clean-up procedures is included in Attachment I.
 - d. Other sources of information are:
 - (1) Raw Material Specification Sheets (for toxicology and flammability information).
 - (2) Material Safety Data Sheets provided by Marshall Laboratory.
 - (3) Toledo Standard Practice V-10.
 - (4) Raw Material Disposal and Kill Solution Manual - Toledo Plant.
 - (5) Hazardous Materials Sub-Committee Chairman.

D. Miscellaneous

1. Spill reports (Form #P-1) will be completed and provided to Plant Management.
2. Additional spill guidelines:
 - a. Toledo Standard Practice V-10, "Spill Contingency and Clean-Up Plan"
 - b. Toledo Standard Practice V-9, "Air Pollution Handling Procedures"
 - c. Toledo Standard Practice V-2, "Spill Prevention, Containment and Countermeasure Plan"
 - d. Toledo Standard Practice IV-12, "Handling of Hazardous Materials"

<u>CODE</u>	<u>EQUIPMENT</u>	<u>PROCEDURE</u>
G-5 G-284 G-720	FRESH AIR MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, RUBBER GLOVES, BOOTS	SWEEP UP MATERIAL. PLACE IN DRUM. MOP AREA WITH SOAPY WATER. PLACE DIRTY WATER IN SAME DRUM. MARK "TO BE BURIED".
G-723 G-1216 G-1224 RC-5110	SCOTT AIR PAK OR FRESH AIR MASK, IMPERVIOUS COAT, BOOTS, GLOVES	MOP WITH 7% SOLUTION OF G-213 OR G-218 IN WATER. LARGER SPILLS SPRINKLE "SOR-BALL" AND THEN MOP WITH ABOVE SOLUTION. ALL MOP WATER TO GO INTO DRUMS, TO BE BURIED.
G-744	FRESH AIR MASK, OR SCOTT AIR PAK, IMPERVIOUS COAT, RUBBER GLOVES AND BOOTS	COVER SPILL WITH "SORBALL". FLUSH "SOR-BALL" AND AREA WITH SOLUTION OF ONE POUND CALCIUM HYPOCHLORITE PER GALLON OF WATER. PICK UP AND PLACE IN DRUM ONE QUARTER (1/4) FULL OF THIS SOLUTION. MOP AREA WITH SOAP AND WATER SOLUTION CONTAINING TWO (2) OUNCES OF CALCIUM HYPOCHLORITE PER GALLON. HOLD DRUM TWENTY-FOUR (24) HOURS AND MARK "TO BE BURIED". MAKE SURE AREA WELL VENTILATED DURING CLEAN-UP.
G-748	FACE SHEILD, RUBBER GLOVES, IMPERVIOUS COAT AND BOOTS.	MOP WITH WATER AND/OR SWEEP MATERIAL - KEEP WET WITH WATER. ADD TO 50-50 MIX-TURE OF H-41 AND 7% SOLUTION OF G-218. HOLD FOR TWENTY-FOUR (24) HOURS AND MARK TO BE BURIED. DO NOT USE SWEEPING COM-POUND TO CLEAN UP.
G-765	SCOTT AIR PAK OR FRESH AIR MASK, IMPERVIOUS COAT, BOOTS, GLOVES	SPRINKLE G-213 ON SPILL, MOP WITH WATER OR FLUSH TO SEWER WITH LARGE AMOUNTS OF WATER
G-781	FULL SUIT, SCOTT AIR PAK, BOOTS, RUBBER GLOVES	SWEEP UP RESIDUE AND PLACE IN CONTAINER TO BE BURIED.

<u>CODE</u>	<u>EQUIPMENT</u>	<u>PROCEDURE</u>
G-1066	IMPERVIOUS COAT, DUST RESPIRATOR, RUBBER GLOVES AND BOOTS	SWEEP UP MATERIAL. PLACE IN DRUM WITH H-30 AT RATIO OF FIVE (5) PARTS OF G-1066 TO NINETY-FIVE (95) PARTS H-30. MARK TO BE BURIED.
G-1216 G-1224	SEE G-723	
H-65	SCOTT AIR PAK, IMPERVIOUS COAT, BOOTS, RUBBER GLOVES	SPRINKLE "SORBALL" ON SPILL. PLACE IN "KILL" SOLUTION. MOP FLOOR WITH "KILL" SOLUTION. PUT MOP HEAD IN "KILL" SOLUTION. BURY ALL MATERIALS.
II-201	SCOTT AIR PAK, RUBBER GLOVES, IMPERVIOUS COAT, BOOTS.	COVER SPILL WITH "SORBALL". NEUTRALIZE ANY REMAINING WITH 2-3% SOLUTION OF H-284 (AMMONIA) AND WATER. MOP SPILL WITH WATER. PLACE ALL SOILED AND MOP WATER IN DRUMS TO BE BURIED.
H-273 H-350 H-721	FRESH AIR MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, BOOTS, RUBBER GLOVES	SPRINKLE "SORBALL" ON SPILL. MOP UP WITH SEVEN (7%) PERCENT SOLUTION OF G-213 IN WATER. PLACE ALL MOP WATER AND SOLID RESIDUE IN DRUM AND MARK TO BE BURIED.
H-284	SCOTT AIR PAK, RUBBER GLOVES, BOOTS, IMPERVIOUS COAT.	FLUSH AREA TO SEWER WITH LARGE EXCESS OF WATER. IF NO SEWER AVAILABLE - PICK UP IN "SORBALL" AND PLACE IN DRUM TO BE BURIED. H-284 REACTS WITH BRASS AND COPPER CAUSING A BLUE SOLUTION TO FORM. THIS SOLUTION IS NOT DANGEROUS.

CODE	EQUIPMENT	PROCEDURE
H-377 II-545 II-567	SCOTT AIR PAK, RUBBER GLOVES, BOOTS AND IMPERVIOUS COAT.	ADD "SORBALL" OR VERMICULITE TO SPILL. PLACE IN DRUMS CONTAINING SOLUTION OF TWO (2) LBS. OF G-485 PER GALLON OF WATER. EVERY POUND OF H-377 TAKES FORTY-FIVE (45) POUNDS OF THE ABOVE SOLUTION. ADD H-377 SLOWLY WITH GOOD AGITATION AS HEAT IS GIVEN OFF, AND BROWN PRECIPITATE IS FORMED. HOLD TWENTY-FOUR (24) HOURS. MARK DRUMS TO BE BURIED.
II-378	FRESH AIR MASK OR SCOTT AIR PAK. IMPERVIOUS COAT, BOOTS, RUBBER GLOVES.	COVER SPILL WITH "SORBALL" OR VERMICULITE. PICK UP USING SPARK PROOF TOOLS, PLACE IN DRUMS ONE QUARTER (1/4) FULL OF WATER. SEAL DRUMS AND MARK TO BE BURIED.
H-497 G-8	FRESH AIR MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, RUBBER GLOVES, BOOTS.	COVER SPILL WITH "SORBALL". PLACE IN DRUM. WASH AREA WITH SOLUTION CONTAINING ONE QUART CHLOROX PER GALLON OF SOAPY WATER. PLACE DIRTY WASH AND MOP HEAD IN SAME DRUM AND MARK TO BE BURIED.
H-501	FRESH AIR MASKS OR SCOTT AIR PAK. IMPERVIOUS COAT, BOOTS, RUBBER GLOVES.	SPRINKLE "SORBALL" ON SPILL. MOP UP WITH SEVEN PERCENT (7%) G-213 IN WATER. PLACE ALL MOP WATER AND SOLID RESIDUE IN DRUM AND MARK TO BE BURIED.
H-640	FRESH AIR MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, BOOTS AND RUBBER GLOVES.	SPRINKLE "SORBALL" OR VERMICULITE ON SPILL, PICK UP USING SPARK-PROOF TOOLS AND PLACE IN DRUM OF H-287. DO NOT EXCEED TEN (10) PERCENT CONCENTRATION OF H-640. MARK DRUM TO BE BURIED.
H-641 H-669	FRESH AIR MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, BOOTS AND RUBBER GLOVES.	DAM SPILL WITH "SORBALL". MOP UP WITH SOAPY WATER. PLACE ALL MOP WATER AND SOLID RESIDUE IN DRUM AND MARK TO BE BURIED.

S P I L L

<u>CODE</u>	<u>EQUIPMENT</u>	<u>PROCEDURE</u>
H-687	DO NOT ENTER AREA WITHOUT AIRLINE MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, RUBBER GLOVES, BOOTS.	EVACUATE AREA! CLOSE FIRE DOOR LEADING TO 1-G ALLEYWAY. SHUT OFF MAIN VALVE ON CYLINDER. OPEN ALL OUTSIDE DOORS. VENTILATE AREA.
H-710	FRESH AIR MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, RUBBER GLOVES, BOOTS.	SPRINKLE "SORBALL" OR VERMICULITE ON SPILL. PLACE IN DRUM ONE FOURTH (1/4) FULL OF H-596 PLUS ONE (1) PERCENT PARA-TERTIARY-CATECHOL INHIBITION. MARK TO BE BURIED.
H-718	FRESH AIR MASK OR SCOTT AIR PAK, IMPERVIOUS COAT, RUBBER GLOVES, BOOTS.	COVER SPILL WITH "SORBALL". PICK UP AND PLACE IN DRUM ONE-HALF (1/2) FULL OF WATER. MOP AREA WITH SOAPY WATER. PLACE DIRTY MOP WATER IN SAME DRUM AND MARK TO BE BURIED.
RC-5110	SEE G-723.	

cc: K. H. Clark
J. R. Lewis
~~R. S. Edwards~~

Toledo Plant
March 30, 1979

E. S. BARDZIK	5
R. J. BAIRD	4
C. W. MUCHA	3
R. L. MC FARLAND	3
C. A. OLSON	1
F. B. PEERY	1
D. C. TEAL	1

SAFETY PROCEDURE NO. 7 "IDENTIFICATION OF THE HEALTH, FIRE AND REACTIVITY
HAZARDS OF MATERIALS"

Pages 4 and 5 of the subject Safety Procedure have been revised to up-date.

Page 3 is also attached as it previously was printed on the reverse side of

Page 4. Please insert in your manual.

Bonnie Haefner

Procedure No. 7Date: July 15, 1975Subject: Identification of the Health,
Fire and Reactivity Hazards
of Materials.Superseding Date: March 3, 1975By: J. J. Teachey

The purpose of this procedure is to outline the ways for easy recognition of the fire hazards of materials stored in tanks and in buildings as they relate to fire prevention, exposure and control. This procedure is to be reviewed annually by the Hazardous Materials Committee.

General:

This system identifies the hazards of a material when exposed to fire in terms of three principal categories; namely, health, flammability, and reactivity (stability). The system indicates the order of severity numerically by five divisions ranging from four, indicating a severe hazard, to zero, indicating no special hazard. Each of the three hazards has its own specific color; blue for health hazard, red for flammability, and yellow for reactivity (stability).

The health hazards were developed under fire conditions and show the possible injury that could result from exposure to the vapors of the listed raw materials. The flammability hazards show the susceptibility of materials to burning and the conditions necessary for fire. The reactivity hazards designate the susceptibility of a material to release energy.

Signal Categories:

The table on Page 3 explains the three principal hazards and the degree of hazard in each category as well as the corresponding signals.

Signal Letter Size and Proper Signal Arrangement:

Signals should be three (3) inches in height for legibility at 100 ft., adhesive backed for ease of application and revision, and placed on the most visible side of the tank (both ends) two feet from the top.

The proper arrangement of the identifying hazard signals is shown below.

Responsibilities:

The Hazardous Materials Committee, when informed by the area of a new material being placed in a storage tank, will issue to all areas a supplement sheet showing the proper tank designation for the new materials.

The area will carry out this practice after issuance. Each area will make sure all tanks are properly marked and tank lists are kept current. Any changes in materials stored in specific tanks are to be reported to the Hazardous Materials Committee and the Fire Chief. Storage of a material not previously stored in tanks should be reported to the Hazardous Materials Committee and the Fire Chief. Each area will issue work orders to the Plant Engineering Department to have signals placed or changed.

Procedure No. 7Date: July 15, 1975Superseding Date: March 3, 1975

The Plant Engineering Department will purchase the necessary signals, place the signals on the tanks and replace or change signals when worn or when a change in a material stored is made. When work such as repairs and painting is performed on tanks, the P.E.D. will replace any decals removed for the aforementioned purposes.

The Area Supervisor will report to the Hazardous Materials Committee any new materials stored in tanks. The Area Supervisor must also provide the Fire Chief with a current list of tanks with proper hazard designation.

No material is to be stored in a tank until the proper identification has been installed on the tank.

The same procedures will be followed in designating buildings where hazardous materials, specially reactive materials or flammable materials are stored or used. Stickers will reflect the highest rating applicable to materials in the building and will be affixed over major doorways entering the building or storage room.

NOTE: Identification descriptions and hazard ratings on the following pages are based on recommendations found in the "Fire Protection Guide on Hazardous Materials (3rd Edition)" published by the National Fire Protection Association.

and --

Engineering Standard F4A

Identification of Health Hazard Color Code: BLUE	Identification of Flammability Color Code: RED	Identification of Reactivity (Stability) Color Code: YELLOW
Type of Possible Injury SIGNAL	Susceptibility of Materials to Burning SIGNAL	Susceptibility to Release of Energy SIGNAL
4 - Materials which on very short exposure could cause death or major residual injury even though prompt medical treatment was given.	4 - Materials which will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or which are readily dispersed in air and which will burn.	4 - Materials which are readily capable of detonation or of explosive decomposition of reaction at normal temperatures and pressures.
3 - Materials which on very short exposure could cause serious temporary or residual injury even though prompt medical treatment was given.	3 - Liquids and solids that can be ignited under almost all ambient temperature conditions.	3 - Materials which are capable of detonation but require a strong initiating source and which must be heated under confinement before initiation.
2 - Materials which on intense or continuous exposure could cause temporary incapacitation or possible residual injury unless prompt medical treatment is given.	2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.	2 - Materials which readily undergo violent chemical change.
1 - Materials which on exposure would cause irritation but only minor residual injury even if no treatment is given.	1 - Materials that must be preheated before ignition can occur.	1 - Materials which are normally stable, but which can become unstable in combination with other common materials or at elevated temperatures and pressures.
0 - Materials which on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.	0 - Materials that will not burn.	0 - Materials which are normally stable.

Procedure No. 7

Date: August 9, 1982

(E. BUILDING)

Superseding Date: 3-28-79

List of Toledo Storage Tanks with Appropriate Identification Signals:

<u>TANK NO.</u>	<u>CODE</u>	<u>MATERIAL</u>	<u>"S" CODE</u>	<u>HEALTH (Blue)</u>	<u>FLAMMA-BILITY (Red)</u>	<u>REACTIVITY (Yellow)</u>
1E5	RCH-61323	Acrylic	S-2	2	3	0
1E6	RC-66073	Acrylic	S-2	2	3	0
1E7	RC-6072	Acrylic	S-2	2	3	0
1E8	RC-64400	Alkyd	S-2	2	3	0
1E9	RC-11136	Acrylic	S-2	2	3	0
1E10	RC-63757	Acrylic	S-2	2	3	0
1E15	H-514	Ethylene Glycol	S-2	2	3	0
1E16	H-344	Coconut Oil	S-0	2	3	0
1E17	H-158	Safflower Oil	S-0	"	"	"
1E18	H-59	Soya Bean Oil	S-0	"	"	"
1E19	H-188	Dibasic Esters	S-2	2	3	0
1E20	H-2	Glycerin	S-0	2	3	0
1E21	RC-65889	ALKYD	S-2	2	3	0
1E22	G-264	MF Resin	S-0	2	3	0
1E23	RL-3802	Alkyd	S-2	2	3	0
1E24	RC-60384	Alkyd	S-2	2	3	0
1E25	RC-5107	Oligomers	S-2	2	3	0
1E26	RC-11104	Acrylic	S-2	2	3	0
1E27	RC-11104	Acrylic	S-2	2	3	0
1E28	RC-66067	Acrylic	S-2	"	"	"
1E29	RC-3710	Alkyd	S-2	"	"	"
1E30	G-26	Melamine Form. Resin	S-2	2	3	0
1E31	RC-66045	Acrylic	S-2	2	3	0
1E32	RC-5106	Oligomer	S-2	2	3	0

(Field Tanks)

W-1	RL-3340	Coconut Alkyd Resin.	S-2	2	3	0
W-2	H-710	Styrene Monomer	S-5	2	3	2(P)
W-3	MT					
W-4	RCE-99220	Paint Liquid Resin				
W-5	G-243	Phthalic Anhydride (Molten)	S-4	3	1	0
W-6	MT					
W-8	MT					
W-9	MT					
--	Peroxide Vault		S-3-5	2	4	4
--	Hazardous Material Room		S-1-6	4	3	2
--	Third Floor "Dulux" Millbase &		--	0	4	0

Resin storage

(P) -- Will Polymerize

Procedure No. 7

Date: 8-9-82Superseding Date: 3-28-79List of Toledo Storage Tanks with Appropriate Identification Signals:

<u>TANK NO.</u>	<u>CODE</u>	<u>MATERIAL</u>	<u>"S" CODE</u>	<u>HEALTH (Blue)</u>	<u>FLAMMABILITY (Red)</u>	<u>REACTIVITY (Yellow)</u>
T-21	H-428	Methyl Methacrylate	S-3	2	3	2
T-22	H-79	Ethylene Glycol	S-2	1	2	0
T-23	MT					
T-24	H-6	Butyl Acetate	S-2	1	3	1
T-25	MT					
T-26	G-723	Butyl Acrylate				
		MEHQ	S-6	2	2	2(P)
T-27	H-224	Ethylene Glycol-				
		Mono-Butyl Ether	S-2	3	2	0
T-28	H-69	Isopropyl Alcohol	S-0	0	3	0
T-29	H-44	M.I.B.K.	S-2	1	2	1
T-30	MT					
T-31	H-425	Naphtha	S-0	1	3	0
T-32	MT					
T-33	MT					
T-34	H-90	Methyl Amyl Ketone	S-2	1	2	0
T-35	H-416	Naphtha	S-2	1	3	0
T-36	H-721	Ethyl Acrylate	S-6	2	3	2(P)
T-37	H-49	Toluene	S-2	2	3	0
T-38	H-583	Xylol	S-0	1	3	0
T-39	H-457	Mineral Spirits	S-0	1	3	0
T-40	Clean Wash Solvent		S-2	1	3	0
T-41	H-596	Hydrocarbon	S-2	1	2	0
T-42	H-12	N-Butyl Alcohol	S-2	1	3	0
T-43	H-601	Hydrocarbon	S-0	2	2	0
Resin Area				4	3	2
"Teflon" Area				4	0	0
Hazardous Materials Room (Old Cotton Shed)			S-1-6	4	3	2
<u>"C" Building</u>						
C-3	G-72	TMPd	S-2	1	1	0

(P) -- Will Polymerize

cc: R. H. Clark
C. E. Buonassisi
C. B. Ogle
F. P. Hartz
D. C. Teal
Personnel

Toledo, Ohio
April 16, 1982

C. J. SZAFIR, JR.	3
H. J. LEARMAN	4
R. J. BAIRD	1
J. W. SHEMECHKO	5
L. D. HARRIS, JR.	3
R. A. YAGER	1
F. B. PEERY	1
W. L. CUMMINGS	1

REVISED SAFETY PROCEDURE #22
HANDLING OF HAZARDOUS MATERIALS - TOLEDO PLANT

Attached is an updated listing of Supply Chemicals, their main ingredient (if known), S-Code and Department using the material. Please discard your previous list (Table # 4) in Safety Procedure #22 and replace with attached.

R. A. YAGER

RAY:djw
encl.

Procedure No. 22Date: 5/1/80Superseding Date: 12/7/79Subject: HANDLING OF HAZARDOUS
MATERIALS - TOLEDO PLANTBy: R. A. YagerApproved By: R. L. McFarland *[Signature]*

This procedure classifies all raw materials and intermediates used at the Toledo Plant which require special handling and/or storage precautions and defines the proper procedures to be followed in handling them.

This issue includes S-O and M classifications and updates procedures on many of the raw materials used at Toledo in the manufacture of products and materials for service operations which require more than ordinary handling precautions to guard against injurious effects on health. Area Supervision has the responsibility to refer any new raw materials and intermediates used in their areas to the Technical Supervisor and the Hazardous Materials Committee Chairman for review and proper classification.

Further details may be found in the F&F Department Technical Procedure III-E-10, in Toledo Safety Procedures 7, 33, 36 and Toledo Standard Practices IV-11 and IV-12.

Fundamental Safety Rules to be Observed in Handling Materials

There are certain fundamental safety rules to be observed in handling all materials regardless of whether or not they are included in the hazardous category. They are as follows:

1. No material is to be taken internally.
2. Hands must be washed before eating or smoking.
3. No food may be stored or eaten in operating or plant storage areas.
4. Containers must be kept closed when not in use. Spilled materials must be cleaned up immediately in accordance with established procedures.
5. All unnecessary personal contact with materials must be avoided. In case of accidental contact, affected areas must be washed thoroughly with soap and water. In case of contact of materials with eyes, they should be thoroughly flushed with water only and then given immediate medical attention.
6. The breathing of fumes or vapors of any material should be kept to a minimum and avoided where possible. Where ventilation is inadequate and vapors or fumes produce personal discomfort, supervision must be notified.
7. Respirators must be worn when working with dusty materials.
8. All clothing contaminated with a hazardous material must be decontaminated, if possible, before reuse. Destruction of such clothing may be necessary (see raw material specifications).

"S" Classification

All raw materials are rated by "S" classification which describes the protective equipment that must be worn when handling the materials. Listed below are the "S" classifications and the respective equipment involved. These are considered minimum protection. The Resin Area, which uses large amounts of very hazardous (S-5, S-6, S-7) materials, prescribes more complete protection. These are spelled out in Appendage 4A of this procedure. The "Dulux" Area also applies the same policy to certain very hazardous materials used in that area. Additional protection needed is charted in Appendage 4 of this procedure.

CLASS PROTECTIVE EQUIPMENT

- S-0 None normally needed, however, refer to the fundamental rules section II (III-E-10-4)
- S-1 Leather Gloves + Cartridge Filter Respirator + Adequate Ventilation
- S-2 *Synthetic Gloves + Adequate Ventilation**
- S-3 Synthetic Gloves + Synthetic Apron + Acid Goggles or Face Shield + Adequate Ventilation
- S-4 Synthetic Gloves + Synthetic Apron + AO Respirator-Goggles or Acid Goggles + Cartridge Filter Respirator + Adequate Ventilation
- S-5 Air Line Mask or Adequate Ventilation with Face Shield and Synthetic Gauntlets + Synthetic Apron
- S-6 Air Line Mask or Adequate Ventilation with Face Shield and Synthetic Gauntlets + Synthetic Apron + Synthetic Boots
- S-7 Full Synthetic Suit + Air Line Hood + Synthetic Gloves + Synthetic Boots + Adequate Ventilation

*The term "Synthetic" covers rubber, polyethylene, "Neoprene", and other impervious materials.

**Adequate ventilation specified should be such that the maximum allowable concentration (MAC) of the material in question, established by the American Conference of Governmental Industrial Hygienists, is not exceeded. Where such MAC's are not established, the ventilation should be that dictated by the best information available.

A picturization of "S" classification protective equipment groupings will be displayed in all appropriate areas. This will be used as a reference by operators for appropriate equipment for each "S" code.

The "S" classifications are based on the types of hazards presented by the respective materials. Closed versus open systems, production versus laboratory pilot quantities, etc., may dictate modifications of the listed "S" classifications. Such considerations leading to local alteration require careful analysis to insure retention of adequate safeguards. Care should be taken to insure that the basis for modification is thoroughly understood by the personnel involved, so that activity in this direction does not undermine respect for the overall system.

Exceptions to the classification of any material are the responsibility of local supervision and should be approved by the department head and referred to the Hazardous Materials Committee Chairman for recording in local practice to prevent any misunderstandings. Major deviations should be referred to the Divisional Hazardous Materials Committee.

Furthermore, intermediate formulas with a residual hazard should indicate that the intermediate must also be handled with adequate safeguards. A note such as: "HANDLING S-5" should be shown in terminal directions of the formula.

Special Cases and Variations - Prefix "M"

A very small percentage of our raw materials or intermediates may present special handling problems at this plant that do not readily fit the usual "S" code system for identification of the proper protective equipment to be used. These variations are provided for in this practice through the use of a prefix "M" which would be shown as follows on documents (formulas, batch cards, etc.) and containers (drums, tanks, etc.) M-S-3. The prefix "M" will alert the employee to check the local plant practice which must be posted in the area. All uses of the prefix "M" at a plant location would require issuance of a local plant practice.

Materials Requiring Formula Notation

Formulas must show the applicable "S" classification for raw materials or intermediates contained in the formulation. They should be used in all cases, except where an unusual hazard requires more specific precautions written on the formula. The formulating chemist is responsible for showing appropriate "S" classifications for ingredients used in the formula.

Receiving and Handling of Hazardous Materials

1. Upon receipt of any material in the list marked with an "S" code, the Receiving and Stores Area shall stencil or otherwise mark legibly and permanently on each container the appropriate classification: S-0, S-1, etc., as shown in the attached raw material list. The "S" code should be of sufficient size so that it can be readily seen. In addition, the Receiving Area shall check for accuracy and adequate size of "S" code on each shipment of containers which have been stenciled by the supplier. All materials of S-5, S-6, S-7 shall have high visibility stickers applied to the sides of containers by the R&S Department when shipments are received.

When such a material is transferred to another container, regardless of size, each container, including cans or bottles of samples for test or other special purpose, must also be marked with the proper "S" code. This will serve as a reminder that special handling precautions must be taken. This applies to all ingredients in all areas of operation --- laboratories, etc.

2. Upon receipt of any material not within the Raw Materials Coding System, or upon receipt of materials for service operation, the materials should be referred to the Hazardous Materials Committee Chairman for evaluation and proper hazard designation.

Samples will be taken on all T/W shipments of raw materials and will be sent to the Quality Control Laboratory for analysis. Qualitative testing will be conducted in a hygienically, safe manner and storage disposition will be provided by Toledo Quality Control Laboratory personnel.

Materials Requiring Extra Special Storage or Handling Precautions1. General

The specific sources for requirements for extra special storage or handling precautions on raw materials are the Raw Material Specification sheets, and on intermediates, the intermediate and finished product formula cards. Formulators have the responsibility for providing such guides at the time of issuance. These problems do not lend themselves to identification by single marking procedure and must be considered on an individual basis because of the variety of raw materials handled and possible associated hazards.

Examples of special hazards such as stability and reactivity as a function of storage temperature, special problems with respect to generation of static electricity, special problems in fire fighting such as evaluation of hazardous decomposition products, hazards, inherent in order of addition, hazards associated with equipment cleaning procedures, etc., must be considered. Also see Procedure #33, "Storage of Hazardous Materials."

2. Carcinogens

Refer to Standard Practice IV-12, "Handling or Restricted Materials."

3. Aluminum Pigments

Suppliers must ship aluminum pastes in vented containers such that any pressure developed due to gassing (usually caused by presence of free moisture resulting in the formation of hydrogen gas) can be safely released prior to loosening and removing the drum head.

The Receiving Area must vent all containers of aluminum paste on receipt. Operating areas shall also vent each container immediately prior to use, since further pressure buildup during storage is possible. Small containers used for retained samples of aluminum pastes may be self-vented by first punching a nail hole in the lid of the can and then sealing the hole with masking or transparent tape.

In order to avoid possible serious accidents, any receipts in unvented drums are to be immediately reported to the Manager of Production Services in the office of the Director of Production. No attempt is to be made to vent or open such containers pending advice from the Wilmington office regarding disposition.

In case of an aluminum powder or paste fire, never use water. Water reacts with hot aluminum dust to form hydrogen and tends to spread the fire. Only clean sand or Underwriter's approved extinguishers, such as Ansul (for Class "D" fires) supplied by Ansul Chemical Company, should be used on aluminum powder fires.

CAUTION: Avoid the application of sand in such a manner as to disturb the burning material.

4. Iron Blue Pigments

Pigments included in this group are W-1592 Indanthrone Lake Blue, W-582 Iron Blue, and W-1594 Milori Blue Chips. Of these, Toledo currently uses W-582. When any of these pigments burn, there is a great danger that the products of decomposition may contain, among other things, cyanogen gas. This gas is

deadly and inhalation of even small quantities is extremely dangerous.

If decomposition occurs within a building, all persons should immediately evacuate the affected area. The Plant Fire Chief should be notified. No person is allowed to enter any room in which a pigment fire (ignited or smoldering) is discovered without wearing a self-contained breathing apparatus. The containers should be removed outdoors if at all possible to do so and cold water sprayed on the containers. W-582 should be stored in Building 1-A-3 (Grinding Floor pigment area) adjacent to the "hot room."

There are several precautions to be observed in handling these pigments:

- (a) No oily rags or scoops wet with oil, varnish, or resin should come in contact with these pigments.
- (b) Each container should be examined before loading pigment into the mill.
- (c) No mill is to be partially or completely loaded with these pigments if it is to set overnight, unless the pigment has been thoroughly wetted.

5. Oxidizing Agents

Strong oxidizing agents may initiate combustion with organic materials. Care should be taken to avoid contact with other raw materials, since they may react explosively. Especially avoid concentrated driers, any acids (or reagents giving acid reactions), alcohols, and strongly basic materials such as caustic and amines. Oxidizing agents should all be stored in limited quantities to minimize these hazards. They are to be stored under proper temperature control and away from organic materials and operating areas. A special storage area is provided for specified storage oxidizing agents.

Skin contact and any inhalation of fumes of these materials must be avoided. Wear appropriate "S" code personal protective equipment when handling these materials.

Table No. 2 lists Toledo's strong oxidizing agents.

6. Monomers and Other Materials With Toxic Vapors

The monomers listed in Table No. 3 give off vapors which are rapidly toxic or extremely irritating on exposure for a short time or to low concentrations and are corrosive skin irritants.

Inhalation of fumes or skin contact must be avoided with these materials. Wear appropriate "S" code personal protective equipment when handling these materials.

7. Ether and Chlorinated Solvents

Ethers tend to form organic peroxides on standing in metal containers. Materials such as diethyl ether, dioxane or carbitol should not be stored for any length of time in a partially filled metal container.

Chlorinated solvents in presence of caustic will form an explosive mixture. Equipment having had any amount of chlorinated solvents in it should be rinsed with some other thinner, non-chlorinated solvent, before it is caustic-cleaned.

All solvents represent fire hazards and they should be stored in closed containers away from heat, sparks, and open flame.

Supplementary Information

R&D Technical Manual III-E-10 No. 28 and Safety Procedure No. 7 (IDENTIFICATION OF THE HEALTH, FIRE AND REACTIVITY HAZARDS OF MATERIALS) outlines the procedure for classification of raw materials and intermediates by the hazards relating to flammability, health and reactivity under conditions of fire and fire control. This procedure establishes a system of readily recognizable and easily understood "Hazard Signal" markings to be placed on tanks containing a material requiring a "Hazard Signal." Procedure No. 33, "Storage of Hazardous Materials," describes special storage requirements for very hazardous materials. Procedure No. 36, "Hazardous Materials; Spill Handling, and Special Equipment - "Dulux" and Resin Areas."

Formulator's Responsibility

It is the responsibility of the formulator using a new raw material to advise the Divisional Plants Chemical Groups of the hazardous nature of the material and to assist in preparation of the Raw Material Specification Sheet. It is his responsibility to specify the "S" classification on formulas containing raw materials with an "S" classification.

Furthermore, it is the formulator's responsibility to determine the hazardous nature of intermediates he develops. This will depend on the amount and nature of the hazardous materials present in the intermediate. In general, intermediates containing any residual monomers requiring special handling or 75% of S-2 or higher unreacted ingredients will require an "S" code.

General Area Responsibility

Materials not included in the raw materials coding system, sometimes called "supply" items, also require classification under the "S" code system to provide for protection of employees required to handle them. The classification of these items is shown in Table No. 4. It is the responsibility of area supervision to refer any new items to the Hazardous Materials Committee for classification.

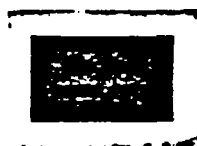
Additions and Revisions

This procedure is to be reviewed every six months and revised as necessary to add new materials, delete obsolete items, etc. However, this procedure should be amended to add any new hazardous raw materials, materials for service operations, and intermediates, whenever the plant starts to use such new materials. Revisions should not be postponed for the semi-annual review. The Hazardous Materials Committee is responsible for such revisions based on advice from the Technical Supervisor.

PROTECTIVE EQUIPMENT FOR HANDLING HAZARDOUS MATERIALS

S-1Leather
Gloves

+

Adequate
Ventilation

+

Cartridge
Respirator

The equipment shown should be used when handling material in ("S") category as indicated by the markings on the container or batch card.

S-2Synthetic
Gloves

+

Adequate
Ventilation

F. & F. DEPARTMENT

S-3Synthetic
Gloves

+

Adequate
Ventilation

+

Synthetic
Apron

+

Face
Shield

or

Splash
Goggles**S-4**Synthetic
Gloves

+

Adequate
Ventilation

+

Splash
Goggles

+

Cartridge
Respirator

+

Synthetic
Apron**S-5**Air Line
Mask

or

Adequate
Ventilation

with

Face
Shield

+

Synthetic
Gauntlets

+

Synthetic
Apron**S-6**Air Line
Mask

or

Adequate
Ventilation

with

Face
Shield

+

Synthetic
Gauntlets

+

Synthetic
Apron

+

Synthetic
Boots**S-7**Synthetic
Gloves

+

Adequate
Ventilation

+

Air Line
Hood

+

Full
Suit

+

Synthetic
Boots

TABLE NO. 1

HAZARD CLASSIFICATIONS
Manufacturing Chemists Association

Products will be encountered that present hazards varying in kind or degree from those listed. Appropriate class of hazard, type of hazard, and precaution notice are listed as a guide primarily for showing formula and batch card notations.

<u>CLASS OF HAZARD</u>	<u>TYPE OF HAZARD</u>	<u>PRECAUTION NOTICE</u>	<u>STORAGE</u>
I	A) Flash point 20°F or below.	Keep away from heat and open flame. Use adequate ventilation. Keep container tightly closed.	Store in closed container away from heat, sparks, and open flame.
	B) Flash point 20°F to 80°F, inclusive.	Keep away from heat and open flame. Use adequate ventilation. Keep container closed when not in use.	Store in closed container away from heat, sparks, and open flame.
	C) Flash point 80°F to 150°F, inclusive.	Keep away from heat and open flame. Keep container closed when not in use.	Store in closed container away from heat, sparks, and open flame.
II	Oxidizing Agents	Wear rubber gloves, rubber apron, and acid type goggles. Avoid inhalation of fumes.	Avoid contact with other raw materials, since they may react explosively. Store in closed container.
	<u>NOTE</u>		
III	(1) Materials giving vapors rapidly toxic or extremely irritating on exposure for a short time or to low concentrations.	When vapors are present, wear a self-contained air line mask or provide adequate ventilation, with face shield plus synthetic gloves and synthetic apron.	Store in a tightly closed container.
IV	Materials giving vapors hazardous from prolonged or repeated exposure to high concentrations.	Use in well ventilated area. Avoid prolonged or repeated exposure to vapors.	Store in closed container.

TABLE NO. 1 (Continued)

HAZARD CLASSIFICATIONS

Manufacturing Chemists Association

<u>CLASS OF HAZARD</u>	<u>TYPE OF HAZARD</u>	<u>PRECAUTION NOTICE</u>	<u>STORAGE</u>
V	Gases and vapors physiologically inert.	Use in well ventilated area. Keep container tightly closed. In case of high concentration, wear a self-contained air line mask.	Store in tightly closed container in well ventilated area.
	<u>NOTES</u>		
VI	(3) Materials in dust form. (4) Hazardous from inhalation or contact.	Wear leather gloves, long-sleeved shirt, and cartridge type filter respirator. Wash with soap and water after handling.	Store in closed container.
	<u>NOTES</u>		
VII	(1) Corrosive skin irritant. (2)	Wear synthetic gloves, synthetic apron, and plastic face shield and goggles. In case of contact, immediately flush skin or eyes with plenty of water; for eyes, get medical attention at once.	Store in closed container.
VIII	Materials causing skin irritation after prolonged or repeated contact.	Avoid skin contact. Wash with soap and water after handling.	Store in closed container.
	<u>NOTE</u>		
IX	(3) Material toxic through skin absorption.	Wear synthetic gloves, synthetic apron, and plastic face shield. In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water; for eyes, get medical attention. Wash clothing before re-use.	Store in closed container.
	<u>NOTES</u>		
X	(1) Materials toxic if swallowed. (2)	Do not take internally. Avoid breathing dust or vapors. Wash well with soap and water after handling.	Store in closed container.

TABLE NO. 1 (Continued)

HAZARD CLASSIFICATIONS

Manufacturing Chemists Association

- Note (1): If materials include both Class Hazards III and VII or include all three Class Hazards III, VII, and X, the following Precaution Notice should be used: "When vapors are present, wear self-contained air line mask or provide adequate ventilation with face shield plus synthetic gloves and synthetic apron. Keep container closed when not in active loading. Wash well with soap and water after handling."
- Note (2): If materials include both Class Hazards VII and X, the following Precaution Notice should be used: "Wear synthetic gloves, synthetic apron, and plastic face shield. In case of contact, immediately flush skin or eyes with plenty of water; for eyes, get medical attention. Wash well with soap and water after handling."
- Note (3): If materials include both Class Hazards VI and IX, the following Precaution Notice should be used: "Wear leather gloves, long-sleeved shirt, and cartridge filter type respirator. In case of contact, immediately remove all contaminated clothing and flush skin or eyes with plenty of water; for eyes, get medical attention. Wash clothing before re-use."
- Note (4): If materials include both Class Hazards VI and VII or include all three Class Hazards VI, VII and X, the following Precaution Notice should be used: "Wear rubber glove, rubber apron, and A0 respiratory-goggles or plastic face shield plus cartridge filter respirator."

TABLE NO. 2"S" CLASSIFICATIONSTRONG OXIDIZERS

<u>CODE</u>	<u>TITLE</u>	<u>"S"</u> <u>CLASSIFICATION</u>
H-118	T-Butyl Peroctoate	S-3
H-377	T-Butyl Peracetate 75% in Mineral Spirits	S-3
H-545	Tertiary Butyl Perbenzoate	S-3
H-567	Lupersol 80	S-5
H-614	Cumene Hydroperoxide	S-5
H-640	Di-Tertiary Butyl Peroxide	S-5
G-1066	Vazo 64	S-4

TABLE NO. 3"S" CLASSIFICATIONMONOMERS AND OTHER MATERIALS WITH TOXIC VAPORS AND SKIN ABSORPTION HAZARD

<u>CODE</u>	<u>TITLE</u>	<u>"S"</u> <u>CLASSIFICATION</u>
G-8	N-Octyl Mercaptan	S-4
G-723	Butyl Acrylate MEHQ Inhibited	S-6
G-744	Acrylonitrile MEHQ Inhibited	M-S-6
G-765	Acrylic Acid MEHQ Inhibited	S-6
G-781	Acrylamide	S-7
G-838	Nonylphenoxy (Ethylene Oxide) 37 Methacrylate	S-3
G-1163	Polyisocyanate	S-5
G-1224	Methacrylic Acid (MEHQ Inhibited)	S-6
H-65	Hylene-W	S-6
H-201	Formaldehyde Solution 50%	S-5
H-216	Butyl Methacrylate	S-3
H-245	Hydroxypropyl Methacrylate - 94%	S-3
H-273	N-IsobutoxyMethyl Acrylamine	S-5
H-349	N-Dodecyl Mercaptan	S-5
H-350	2-Ethyl Hexyl Acrylate	S-5
H-378	N-Butanol Formaldehyde	S-5
H-428	Methyl Methacrylate Monomer	S-3
H-497	2-Mercaptoethanol	S-4
H-501	Hydroxyethyl Acrylate	S-6
H-616	N, N-Dimethyl Ethanol Amine	S-5
H-631	Diethylamine	S-5
H-669	Triethylamine	S-5
H-687	Ammonia - Refrigeration Grade	S-5

TABLE NO. 3 (Continued)"S" CLASSIFICATIONMONOMERS AND OTHER MATERIALS WITH TOXIC VAPORS AND SKIN ABSORPTION HAZARD

<u>CODE</u>	<u>TITLE</u>	<u>"S"</u> <u>CLASSIFICATION</u>
H-710	Styrene Monomer - Rubber Grade	S-5
H-718	Furfuryl Alcohol	S-3
H-721	Ethyl Acrylate	S-6
RC-5110	Iminated Monomer	S-6

SUPPLY CHEMICAL LIST, SAFETY PROCEDURE No. 22

14-APP-82

Page 1

Table # 4

CHEMICAL	INGREDIENT	S CODE	DEPT
1928 ACTIVATOR	ISOCYANATE	5	C
ACETIC ACID	ACETIC ACID	3	C
ACETONE	ACETONE	2	C
ADHESIVE, BORDEN CHEMICAL		C	S
ADHESIVE, DIAGRAPH QUIK-SPRAY		C	S
ADHESIVE, DYNA INSTANT		C	S
ADHESIVE, SEAL-ALL		C	S
ALCOHOL DENATURED	ETHANOL, METHANOL	2	H
ALBESIDE 14-385-325		1	H
AMMONIUM HYDROXIDE	AMMONIUM HYDROXIDE	5	C
ANTIFREEZE, ZEREX	ETHYLENE GLYCOL	5	C
ATHLETE'S FOOT SPRAY, ONOX SOLUTION		C	S
BAB-O CLEANSER		C	S
BELT DRESSING, SPRAYON		C	S
BLEACH, CHLOROX	SODIUM HYPOCHLORITE	C	S
BOILER COMPOUND, DRY NYTRAM 41AR		3	S
BOUL CLEANER, SPARTAN BERNICIDAL		C	S
BRAKE PART CLEANER (BRAKLEEN-CRC CHEM)		C	S
BROMONAPHTHALENE	BROMONAPHTHALENE	4	C
BROMOPHENOL BLUE SOLUTION 0.04%	BROMOPHENOL BLUE	2	C
BUFFER SOLUTIONS (PH METER)		C	C
BUTYLAMINE	BUTYLAMINE	3	C
CALGON CL-14 DEPOSIT INHIBITOR		3	H
CALGON FLAKE	HEXAMETAPHOSPHATE	1	H
CARBON DIOXIDE (50 LB CYLINDERS)		C	C
CARBORUNDUM		2	C
CAULK, SILICONE CLEAR		C	H
CAUSTIC SODA SOLUTIONS	S	5	S
CEMENT, GRANT WILSON ASBESTOS		2	H
CEMENT, MELASTIC		2	H
CEMENT, PATCH, SILKA TOP III		2	H
CEMENT, RUBBER, RASMUSSEN		2	H
CEMENT, THERMO-COTE HI-TEMP		2	H
COPPER SULPHATE, ANHYDROUS	COPPER SULPHATE	4	H
CREME CLEANSER		C	S
CROWN CLEAR COAT NO. 1884		C	S
CYCLOHEXANE	CYCLOHEXANE	2	C
DEBUBBLER, PALAD (0-738)	0-738	0	C
DECAHYDRONAPHTHALENE	DECAHYDRONAPHTHALENE	2	C
DEGREASER (FOR SMOKE EATERS)		C	S
DERMASSAGE	C	C	C
DETERGENT, GEN. PURPOSE ACIDIC, VES-503		C	S
PETERGENT, GENERAL PURPOSE, ACIDIC		C	S
DISINFECTANT, STERIPHENE DEODORANT		C	S
DITTO DIRECT PROCESS FLUID		C	S
DOUTHERN (0-4781)		5	S
DUPONT SLIP-SPRAY		C	S
ERASE		C	S
ETHYLPIPERIDINE	ETHYLPIPERIDINE	4	C
FERTILIZER, NITRACID		0	S
FERTILIZER, SCOTT'S GROW		0	S
FILTER AIDS		1	R

69-90

SUPPLY CHEMICAL LIST, SAFETY PROCEDURE NO. 22

14-Apr-82

Page 2

CHEMICAL	INGREDIENT	S CODE	DEPT
FLOOR FINISH, OMPCO ACRYLIC POLYMER		C	O
FLOOR STRIPPER, OMPCO NON-AMMONIATED		C	O
FREON 12 SOLVENT	CHLORINATED HYDROCARBONS	C	O
FUNGICIDE, DEMONYL		4	S
GASOLINE	HEXANE, HEPTANE, BENZENE	C	S
GERMICIDAL BOWL CLEANER		C	S
GERMICIDAL CLEANER, STERIBENT		C	S
GLASS CLEANER		C	H
GLASS CLEANER, DUPONT		C	H
GOOGLE STERILIZING SOLUTION	2	2	F
GRAPHITE		C	H
GREASE REMOVER, 8401 GRANULATED	5	C	H
GREASE, BEARING BAR	GREASE	0	H
GREASES (ALL)		C	H
HAIR AND BODY SHAMPOO		C	S
HAND CLEANER, DL		C	O
HAND CONDITIONER		C	H
HARDNESS BUFFER REAGENT (291)		C	H
HARDNESS INDICATOR (290)		C	H
HARDNESS TITRATING SOLUTION (292)		C	H
HEAT TRANSFER COMPOUND		C	H
HYDROCHLORIC ACID	HYDROCHLORIC ACID	C	C
HYDROGEN PEROXIDE		C	C
HYDROGEN PEROXIDE (32)		C	H
INK CONDITIONER, QUINT		C	H
INK, STENCIL (BLACK, YELLOW, CLEAR)		C	H
INK, ALL-MARK, PRINTING		C	H
INK, DIAGRAM STENCIL		C	H
INK, INSTRUMENT		C	H
INK, MARSH STENCIL		C	H
INSECTICIDE, BOLT (SPRAY CAN)		C	H
INSULATION, PLASTIC		1	H
ISO-OCTANE		0	H
KARL FISHER REAGENT	H74	0	C
KEROSENE		C	S
KING GAUGE INDICATING LIQUID		C	H
KROIL		C	H
LEAK-TEC		C	H
LIQUID SOAP		C	H
LOCTITE SUPER BONDEN 495		C	H
LUBRICANT, IDEAL WIRE PULLING		C	H
LUBRICANT, NO-OX-ID		C	H
MECHANIC'S CHOICE		C	H
METHANOL	METHANOL	2	H
METHYL ORANGE INDICATOR (211)		C	H
MOLYBDATE REAGENT (236)		3	C
MURIATIC ACID (RUST REMOVER)	HYDROCHLORIC ACID	3	H
OCTANE (2,2,4-TRIMETHYLPENTANE)	OCTANE	2	C
OIL, KANO KROIL, MACHINE		C	H
OIL, CHESTERTON SPRAY CUTTING		C	H
OIL, FACTOVID 52	A-802 20W	0	H
OIL, FACTRON AD49	A-413 30W	0	H

69-91

CHEMICAL	INGREDIENT	CODE	DEPT
OIL, INDUSTRON 48	A-531 20W/20W	0	N
OIL, INDUSTRON 53	A-532 20W/20W	0	N
OIL, INDUSTRON 64	A-534	0	N
OIL, MOTOR AND CRANKCASE	OIL	C	N
OIL, THREE IN ONE HOUSEHOLD	OIL	C	N
PAINT REMOVER	METHYLENE CHLORIDE	C	N
PAINT, SPRAY		C	N
PARATERTIARY BUTYL CATECHOL	PARATERTIARY BUTYL CATECHOL	2	R
PH ACTIVATOR, DRUMING		3	R
PHENOLPHTHALEIN INDICATOR (212)	PHENOLPHTHALEIN	C	N
PHOSPHATE STANDARD (244)		C	N
POT LEAD	LEAD	C	N
POTASSIUM HYDROXIDE (0.1 N IN METHANOL)	POTASSIUM HYDROXIDE	3	C
POTASSIUM HYDROXIDE (0.1N IN WATER)	POTASSIUM HYDROXIDE	3	C
POTASSIUM IODATE (219)	POTASSIUM IODATE	3	N
PYRIDINE	PYRIDINE	1	C
RECTO SEAL 85		C	N
REFRACTORY COMPOUND, KAISER MOND T9		2	N
ROOF CEMENT, CELOTEX PLASTIC		C	N
SANITIZING MIST (SPRAY CAN)		C	N
SCOTCHAL MATTE FINISH CLEAR 3930		C	N
SCOTCHAL PHOTODENSITIVE PROD. DEV. 8500		C	N
SCOURING POWDER		C	N
SEALANT, DOW CORNING		C	N
SEALING COMPOUND, CHICO A		C	N
SEALING FIBRE, CHICO		C	N
SHOWER CLEANER IC-115		C	N
SILVER NITRATE (207)		2	N
SOAP (ALL TYPES)		C	N
SOAP, BORAXO		C	N
SODA ASH LIGHT 0711	SODIUM CARBONATE	1	N
SODIUM NITRATE	SODIUM NITRATE	3	C
SODIUM SULFATE	SODIUM SULFATE	1	C
SODIUM SULFITE	SODIUM SULFITE	1	N
SPARKLEEN	C	C	S
SPARTAN N-95		C	S
STANNOUS REAGENT (239)		1	N
STERIPHENE		C	S
STODDARD SOLVENT		C	R
SULFAMIC ACID (193)		4	N
SULFITE INDICATOR (219)		3	N
SULFURIC ACID 640E	SULFURIC ACID	4	N
TAP MAGIC		C	N
TETRAHYDROFURAN	TETRAHYDROFURAN	2	C
THYNOLOPHTHALEIN	THYNOLOPHTHALEIN	0	C
TIN-BTIC 10-4400 NATIONAL ADHESIVE		C	S
TOLUENE	TOLUENE	2	C
TRIUMPH		2	N
VANDALISM REMOVER		2	S
VANI-SOL		C	N
V8-Y-511	INRON POLYURETHANE ACTIVATOR	5	C
VH-Y-240	INRON 1898 FAST DRY ACCELERATOR	2	C

69-92

SUPPLY CHEMICAL LIST, SAFETY PROCEDURE NO. 22

14-Apr-02
Page 4

CHEMICAL

WATER
WAVICIDE - 01
WEED KILLER
WEED-D-BOM
X-RAY DEVELOPER AND FIXER

INGREDIENT

8
CODE _____ **DEPT** _____

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69-93

TABLE NO. 5INCOMING MATERIALS NOT TO BE SAMPLED

<u>CODE</u>	<u>NAME</u>	<u>REASON FOR NON-SAMPLING</u>
Various	S-5 Hazardous Materials	Toxicity and Reactivity
Various	S-6 Hazardous Materials	Toxicity and Reactivity
Various	S-7 Hazardous Materials	Toxicity and Reactivity
G-8	N-Octyl Mercaptan	Toxic - eye injury
G-55	p-Benzoquinone	Hazardous dust
G-108	"Teflon" 30	Not tested-controlled by supplier
G-146	FEP Fluorocarbon Resin Dispersion	Toxicity if on hands when smoking
G-212	Calcium Hydrated Lime	Corrosive-skin irritant
G-218	Caustic Soda Flake	Corrosive-skin irritant
G-243	Phthalic Anhydride (Dry & Molten)	Skin irritant-toxic if inhaled
G-498	Hydroquinone-Technical	Skin irritant-toxic if inhaled
G-697	Phosphoric Acid 85%	Corrosive-skin irritant
G-720	Amoco A-1 Polymer	Irritant-toxic if ingested
G-776	"Sulfole" - Tertiary Dodecyl Mercaptan	Nauseating odor
G-781	Acrylamide	Toxicity
G-1066	Vazo Catalyst #64	Fire hazard-skin irritant-toxic if inhaled
G-1163	Polyisocyanate	Skin irritant
H-201	Formaldehyde Solution (50%)	Skin irritant-toxic if inhaled
H-216	Butyl Methacrylate	Corrosive-toxic if inhaled
H-284	Ammonia 26	Corrosive-toxic if inhaled
H-349	N-Dodecyl Mercaptan	Corrosive-toxic if inhaled
H-350	2-Ethyl Hexyl Acrylate	Corrosive-toxic if inhaled
H-354	Cardura E Ester	Skin irritant
H-377	T-Butyl Peracetate	Strong oxidant-inhalation hazard
H-378	N-Butyl Formace1	Toxicity

TABLE NO. 5 (Continued)INCOMING MATERIALS NOT TO BE SAMPLED

<u>CODE</u>	<u>NAME</u>	<u>REASON FOR NON-SAMPLING</u>
H-384	Benzyl Trimethyl Ammonium Hydroxide	Irritating odor-skin irritant
H-387	Dibutyl Tin Dilaurate	Skin irritant
H-449	2, 4, Pentanedione	Hazardous vapors-skin irritant
H-497	2-Mercaptoethanol	Toxicity
H-545	Tertiary Butyl Perbenzoate	Oxidant
H-549	Stearyl Methacrylate	Corrosive-toxic if inhaled
H-567	Lupersol-80	Explosive hazard-toxic
H-603	Isophorone	Irritant-toxic if inhaled
H-640	Di-Tertiary Butyl Peroxide	Oxidant
H-687	Ammonia - Refrigeration Grade	Toxicity

TABLE NO. 6RESTRICTED MATERIALS NOT TO BE SAMPLED

<u>CODE</u>	<u>NAME</u>	<u>REASON FOR NON-SAMPLING</u>
G-744	Acrylonitrile	Suspected Carcinogen
G-1246	Dythal Dibasic Lead Phthalate	" "
H-107	BYK-0	" "
H-668	Lead Tallate	" "
W-609	Zinc Yellow (Chromate)	" "
W-618	"Krolor" Orange Y K0-789-D	" "
W-622	Molybdate Orange YE-637-D	" "
W-633	"Krolor" Yellow (Lead Chromate)	" "
W-636	Strontium Chromate (X-2865)	" "
W-649	Strontium Chromate X-2974-LH	" "
W-652	Molybdate Orange YE-698-D	" "
W-655	Molybdate Red YE-721-D	" "
W-661	Molybdate Orange X-339-0	" "
W-665	"Krolor" Orange	" "
W-666	Lead Silico Chromate	" "
W-670	Chrome Yellow Primrose Y-758-D	" "
W-679	C. P. Chrome Yellow Y-433-D	" "
W-681	"Krolor" Yellow-Med. (Lead Chromate) KY-787-D	" "
W-686	Chrome Yellow-Med. Y-469-D	" "
W-687	P. D. Chrome Yellow X-2777 Regal	" "
W-690	"Krolor" Yellow-Med. KY-795-D	" "
W-692	P. D. Chrome Yellow RF-2101-02 Special	" "
W-698	B-Lead Silico Chromate	" "
"Freon" 22	Refrigerant, only	" "

Subject: HAZARDOUS MATERIALS SPILL HANDLING
(Special Equipment-"Dutux" & Resin Areas)

Written By: F. B. PEERYApproved By: [Signature]

INTRODUCTION

The R-C-T Area Foremen have been assigned the responsibility of supervision of any hazardous raw material spill. A hazardous material is defined as materials coded "S-5", "S-6" or "S-7". The R-C-T Foreman may be consulted about cleanup procedures for other materials such as peroxides, etc., that represent a fire hazard, but are not toxic.

The R-C-T Foremen have available several sources of information. Special charts listing by code the raw materials used in an area and cleanup procedures. Specification sheets in the R-C-T Area Foremen's office give further information on spill cleanup and first aid.

The R-C-T Foremen should follow the following priority in spill cleanup:

1. Treat and/or care for anyone splashed by a hazardous material.
2. Protect individuals properly who are to clean up the spill. All others should leave the area.
3. Confine the spill. All measures should be taken to keep toxic material out of sewers. Retaining walls of sorball around a spill are effective.
4. Absorb or neutralize spilled material per the specific instructions.
5. Decontaminate area so that it is safe to work in. Until this can be done, the contaminated area must be posted or barricaded.
6. Make use of open head lined drums (734's) to dispose of materials picked up and any mop water. Do not seal drums until all visible signs of chemical reactions are complete.
7. Label drums so that disposal can be handled properly.
8. Call for help when doubt exists as to action to be taken.
9. Use personnel from area where spill occurred where feasible.
10. Assure that employee involved in spill cleanup and whose protective clothing become contaminated, shower before removing the clothing; that the contaminated clothing is placed in a closable container, labeled as to its content and that any person engaged in laundering or cleaning the clothing is informed of the hazard and its potentially harmful effects.
11. It is the responsibility of the R-C-T Area Foreman to reorder at once, spill materials that have been consumed under his direction.

<u>CODE</u>		<u>EQUIPMENT</u>	<u>PROCEDURE</u>
Q-201	S-5	Scott Air Pak, rubber gloves, impervious coat, boots.	Cover spill with Sorball or Vermiculite. Pick up Sorball and place in drums to be buried. Any remaining can be neutralized with a 2-3% solution of H-284 (Ammonia) and water.
H-273	S-5	Scott Air Pak, rubber gloves, impervious coat, boots. For large spills, use a full suit with Scott Air Pak, boots, and rubber gloves.	Cover spill with Sorball or Vermiculite. Pick up Sorball and place in drums to be buried.
H-284	S-5	Scott Air Pak, rubber gloves, boots, impervious coat.	Cover spill with Sorball or Vermiculite. Pick up Sorball and place in drums to be buried. Mop floor with water. Mop water can be dumped to the sewer.
H-349	S-5	Scott Air Pak, rubber gloves, boots, and impervious coat.	Cover spill with Sorball or Vermiculite. Pick up Sorball and place in drums to be buried. Mop floor with solution of one pound calcium hypochlorite per gallon of water.
H-377	S-3	Scott Air Pak, rubber gloves,	Add Sorball or Vermiculite to spill. Place in drums containing solution of two pounds of G-485 per gallon of water. Every pound of H-377 takes 45 pounds of the above solution. Add H-377 slowly with good agitation as heat is given off, and brown precipitate is formed. Hold 24 hours. Mark drums to be buried.
I-545	S-3	boots, and impervious coat.	
H-614	S-5		
H-378	S-5	Fresh air mask or Scott Air Pak. Impervious coat, boots, rubber gloves.	Cover spill with Sorball or Vermiculite. Pick up using spark-proof tools, place in drums one quarter full of water. Seal drums and mark to be buried.
H-501	S-6	Fresh air mask or Scott Air	Sprinkle G-213 on spill. Mop up with 7% solution of G-213 in water. Place all mop water and solid residue in drums and mark to be buried.
H-515	S-5	Pak, impervious coat, boots,	
H-536	S-3	rubber gloves.	
H-549	S-3		
H-721	S-6		
H-567	S-5	Scott Air Pak, rubber gloves, impervious coat, boots.	Cover spill with Sorball or Vermiculite. Pick up Sorball and place in drums. Fill drums with water and mark to be buried.
H-603	S-5	Scott Air Pak, rubber gloves,	Cover spill with Sorball or Vermiculite. Pick up Sorball and place in drums to be buried. Mop floor with soap and water. Mop with clean water. Put mop water in drums with the Sorball. Fill drums with water.
H-616	S-5	boots, impervious coat or	
H-631	S-5	apron with sleeve protectors.	
H-669	S-5		

Date: June 9, 1975Superseding Date: 4/7/75

<u>CODE</u>		<u>EQUIPMENT</u>	<u>PROCEDURE</u>
H-640	S-5	Fresh air mask or Scott Air Pak, impervious coat, boots and rubber gloves.	Sprinkle Sorball or Vermiculite on spill. Pick up using spark-proof tools & place in drum of H-287. Do not exceed 10% concentration of H-640. Mark drum to be buried.
H-710	S-5	Fresh air mask or Scott Air Pak, impervious coat, rubber gloves, boots.	Sprinkle Sorball or Vermiculite on spill. Place in drum one fourth full of H-596 plus 1% Para-Tertiary-Catechol Inhibitor. Mark to be buried.
G-245	S-4	Scott Air Pak, impervious coat, rubber gloves, boots.	Sweep up & place in drums to be buried. Mop up any remaining with water. <u>CAUTION</u> - Gives off heat when mixed with water.
G-723	S-6	Scott Air Pak or fresh air mask, impervious coat, boots, gloves.	Mop with 7% solution of G-213 or G-218 in water. Larger spills, sprinkle dry G-213 and then mop with above solution. All mop water to go into drums, to be buried.
-744	S-6	Fresh air mask or Scott Air Pak, impervious coat, rubber gloves, boots.	Cover spill with Sorball. Flush Sorball & area with solution of one pound Calcium Hypochlorite per gallon of water. Pick up & place in drum one quarter full of this solution. Mop area with soap & water solution containing two ounces of Calcium Hypochlorite per gallon. Hold drum 24 hours. Mark to be buried. Make sure area well ventilated during cleanup.
G-748	S-5	Face shield, rubber gloves, apron, boots.	Mop with water and/or sweep material. Keep wet with water. Add 15 parts of a 50/50 mixture of H-41 and 7% solution of G-218 to every part of G-748. Hold for 24 hours & mark to be buried. Do not use sweeping compound to clean up.
G-765	S-6	Scott Air Pak or fresh air mask, impervious coat, boots, gloves.	Sprinkle G-213 on spill, mop with water or flush to sewer with large amounts of water.
G-781	S-7	Full suit, Scott Air Pak, boots, rubber gloves.	Sweep up residue & place in container to be buried. Floor should be mopped with a water solution containing 1.6% Sodium Metabisulfate & 1.6% Potassium Persulfate. Solution should be buried.

<u>CODE</u>		<u>EQUIPMENT</u>	<u>PROCEDURE</u>
-825	S-6	Scott Air Pak, impervious coat, boots, rubber gloves.	Contain spill with absorbent material (Vermiculite, Sand, Sorb-All, W-165, etc.). Place contaminated absorbent material into clean open head drums half filled with water. Stop addition when drum is 3/4 full. Let container cool. When cool, seal drums and send out to be buried. Dump mop water down drain at lye vat (goes through sump to sanitary sewer).
G-838	S-3	Fresh air mask or Scott Air Pak, impervious coat, boots, rubber gloves.	Sprinkle G-213 on spill. Mop up with 7% solution of G-213 in water. Place all mop water and solid residue in drum and mark to be buried.
G-1066	S-4	Impervious coat, dust respirator, rubber gloves and boots.	Sweep up material. Place in drum with H-30 at ratio of five parts G-1066 to 95 parts H-30. Mark to be buried.
G-1224	S-6	Scott Air Pak, impervious coat, boots, rubber gloves.	Sprinkle G-213 onto liquid. Mop up area with 7% solution G-213 and water. Dispose of all solids and liquids in drum to be buried.
KH-8550	S-6	Scott Air Pak, impervious coat, boots, rubber gloves.	Mop up spill with kill solution. Mop with clean water. Put all mop water in drums to be buried. <u>DO NOT FLUSH DOWN DRAINS</u> . Kill solution consists of 10% H-284, 10% of H-69 and 80% of H-506.

SPILL MATERIALS

SORB-ALL

Purchased as AUTO-DRI

Engelhard Minerals & Chemicals,
Menlo Park, Edison, New Jersey
08817

SODA ASH (G-213)

Order as G-213

Usual Source:

Inland Chemical Company
Toledo, Ohio

POTASSIUM PERSULFATE
(G-724)

Purchase Commercial Grade
Open Market

PARA-T-BUTYL CATECHAL

Purchase Commercial Grade
Open Market

CALCIUM HYPOCHLORITE
OR
SODIUM HYPOCHORATE

By "Chlorox" (Chlorine Bleach)

SODIUM META BISULFITE
(G-735)

Purchase Commercial Grade
Open Market

HAZARDOUS MATERIALS - "DULUX" AREA

<u>CODE</u>	<u>CHEMICAL NAME</u>	<u>S-CODE</u>	<u>EQUIPMENT TO BE USED WHEN HANDLING</u>
H-603	Trimethyl Cyclohexenone	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>
H-616	Dimethyl Ethanolamine	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>
H-631	Diethylamine	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at the drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>
H-669	Triethylamine	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>

<u>CODE</u>	<u>CHEMICAL NAME</u>	<u>S-CODE</u>	<u>EQUIPMENT TO BE USED WHEN HANDLING</u>
G-245	Calcium Oxide	S-4	Disposable coveralls, dust respirator, leather gloves.
G-723	Butyl Acrylate	S-6	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation at drum bung.
G-744	Acrylonitrile	S-6	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation.
G-748	Wetted Benzoyl Peroxide	S-5	Impervious coat or apron with sleeve protectors, rubber gloves, face shield.
G-765	Acrylic Acid	S-6	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation at drum bung.
G-781	Acrylamide	S-7	Full suit, carbon disk respirator.
G-825	Potassium Hydroxide Solution	S-6	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation at drum bung.
G-1066	"Vazo" Vinyl Catalyst	S-4	Impervious coat or apron with sleeve protectors, face shield and rubber gloves.
G-1224	Methacrylic Acid	S-6	Impervious coat or apron with sleeve protectors, face shield, rubber gloves and ventilation at drum bung.
H-284	28% Ammonium Hydroxide.	S-5	Apron or coat, rubber gloves, face shield and ventilation at drum bung.
H-377	T-Butyl Peracetate	S-3	Rubber gloves, apron and face shield.
H-378	Butyl Formcel	S-5	Apron or coat, rubber gloves, face shield, ventilation at drum bung.
H-501	2 Hydroxyethyl Acrylate	S-6	Impervious coat or apron with sleeve protectors, rubber gloves and face shield. Ventilation at drum bung.
H-515	2 Ethylhexyl Methacrylate	S-5	Impervious coat or apron with sleeve protectors, face shield, rubber gloves and ventilation at the drum bung.
H-536	Isobutyl Methacrylate	S-3	Impervious coat or apron with sleeve protectors, face shield, ventilation at drum bung.

HAZARDOUS MATERIALS - R-C-T AREA (Continued)

<u>CODE</u>	<u>CHEMICAL NAME</u>	<u>S-CODE</u>	<u>EQUIPMENT TO BE USED WHEN HANDLING</u>
H-545	T-Butyl Perbenzoate	S-3	Apron, rubber gloves, face shield.
H-549	Stearyl Methacrylate	S-3	Apron, rubber gloves, face shield.
H-614	Cumene Hydroperoxide	S-5	Impervious coat or apron & sleeve protectors, rubber gloves, face shield and ventilation at bung of drum (if ventilation not available, as with five gallon pails, use respirator with carbon discs and face shield).
H-640	Di-T-Butyl Peroxide	S-5	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation at top of drum.
H-710	Styrene	S-5	Impervious coat or apron, face shield, rubber gloves and ventilation at drum.
H-721	Ethyl Acrylate	S-6	Impervious coat or apron & sleeve protectors, face shield, rubber gloves, ventilation at outlet.
H-273	Isobutoxymethyl Acrylamide	S-5	Impervious coat, face shield, boots, rubber gloves, ventilation at outlet.
H-567	T-Butyl Peroxyisobutyrate	S-5	Impervious coat, airline mask, boots, rubber gloves, ventilation at outlet.
KH-8550	Hylene "W"	S-6	Impervious coat, boots, rubber gloves, face shield, ventilation at outlet.
G-838		S-3	Impervious coat, rubber gloves, face shield.

STANDARD PRACTICE V-2

PLANT Toledo
DEPARTMENT General
AREA All

DATE November 21, 1975
SUPERSEDING DATE New

SPILL PREVENTION, CONTAINMENT & COUNTERMEASURE PLAN
(SPCC PLAN)

TOLEDO FINISHES PLANT
TOLEDO, OHIO

Table of Contents

Page

Introduction

1

Detail

A. Containment and Diversion

1

B. Spill Prevention and Procedures

2

C. Training

2

D. Spill Control

3

E. Storm Sewer

3

F. Transfer Facilities

3

G. Security

4

References

History of Prior Spills

Standard Practice V-9, "Pollution Complaint Handling Procedures"

Standard Practice V-10, "Spills - Contingency & Clean Up Plan"

Map - Area Drainage Ditch System Drawing No. T-747-G

Drawing - Plant Storm Sewers Drawing No. T-491-G

SPILL PREVENTION, CONTAINMENT & COUNTERMEASURE PLAN
(SPCC PLAN)

TOLEDO FINISHES PLANT

TOLEDO, OHIO

INTRODUCTION

Extensive facilities are provided at Toledo to prevent discharge of oil and related materials that could result in pollution outside plant property. Effective spill prevention and containment procedures have been developed to control accidental discharge resulting from equipment failure or operating errors. These preventative measures are described in this Spill Prevention Control and Countermeasure (SPCC) Plan.

DETAIL

A. Containment and Diversion

1. Dikes

All bulk storage tanks used for oil and related materials are adequately diked as required by engineering standards. These dikes will not be automatically drained. Any collected material will be inspected and then pumped out into drums, portable tanks or tank trucks.

2. Storm Sewer Special Manhole Covers

Special covers fabricated from steel plate and sponge rubber hose have been placed next to each storm sewer manhole. In event of a spill, the cover is placed over the manhole and provides a seal for viscous materials. A weight is placed on the cover plate to provide a more perfect seal for spills of liquids with lower viscosities.

3. Roof Drain Diversion

Two roof drains in the Resin area have been removed from the storm sewer system and routed into a holding tank. Overflows or condensed vapor from numerous storage tank vents are kept from entering the sewers.

4. Solvent Fume Detectors

Solvent fume detection units have been ordered for installation in both EPA sampling points. These units will detect any spilled material in the storm sewer system, give an alarm so that containment measures may be started immediately.

Standard Practice V-2Date November 21, 1975Superseding Date New5. Tank Wagon Loading Station

Approval is being sought to make physical changes to the Tank Wagon Scale Area which will contain any minor spill. New procedures call for an employee to be in attendance at all times when loading is underway.

6. All manholes and sewers have been identified and mapped. Attached to this Plan is a copy of the plant storm sewer system and a copy of the drainage ditch system in Du Pont area.
7. Studies are being made to divert process water entry into the 48" storm sewer tile to a downstream position and install 1500 gallon sumps at 001 and 002 to impound any spills from the plant.

B. Spill Prevention and Procedures1. Storage Tank Maximum Working Levels

- a. All storage tanks that have vent lines open to the outside should maintain a 10% freeboard to reduce the potential for overflowing and resulting spills. For example, a 10,000 gallon tank should not be filled above the 9,000 gallon level.
- b. This freeboard may be exceeded, when imperative, only after the particular pumping operation has been reviewed and approved by the Area Supervisor responsible. The maximum working level should be clearly marked on all tanks and related level gauges.

2. Solvent Pipe Line Protection

Most of the solvent pipe lines from the Tank Farm to the Production Areas have been moved high enough to be clear of vehicular traffic. Several pipe lines which have not been moved will be protected from vehicular traffic with a heavy guard rail.

C. Training

1. All personnel are made aware as part of their on-the-job training, of the necessity for proper operation of their equipment and maintaining vigilance when pumping solvents, paints and other liquids.
2. Spills of any magnitude are publicized by "Communications Items" issued by management. These descriptions of the incidents are used in quickie meetings, co-operative meetings and are posted on plant bulletin boards.

Standard Practice V-2Date November 21, 1975Superseding Date New

3. Resin Department personnel are trained by their foreman in handling hazardous materials spills. Special charts and specific information for materials are posted at the Resin Foreman's Office.
4. Personnel of each area are trained by their foreman in handling spills in their own area, methods of neutralization, containment, fire protection and clean-up.
5. The Mechanical Department is trained on a continuing basis on methods of containing uncontrolled spills. Their knowledge of the plant facilities, sewers and drains helps them in determining how to cut off water flows, where to place absorbent materials and offer safety and fire protection.
6. Maps of sewers and ditches are a part of Disaster Non-responsive kits which are located in the Mechanical Department, Production Supervisor's Office and in the old Gate House. These maps are also attached and are an integral part of this SPCC Plan.

D. Spill Control

Procedures have been established for handling contaminating material in the event of an accidental spill in-plant. Provision for personnel and materials for cleaning are described in Standard Practices Nos. V-10, "Spill Contingency and Clean Up Plan", and Standard Practice V-9, "Pollution Complaint Handling Procedures", which are integral parts of this SPCC Plan.

E. Storm Sewer and Drainage

All process non-contact cooling water, roof drains, normal run-off, etc., are collected in a plant sewer system. The storm sewer, a 48" concrete tile leaves the plant on the east side and travels underground approximately 3/4 mile where it opens up into an open ditch. From here to Halfway Creek, an inlet of Maumee Bay in Michigan, a distance of approximately five miles it is alternately underground and in a ditch.

Storm sewer operation complies with requirements of EPA permit F216*BD. All drains and manholes have been identified and mapped.

F. Transfer Facilities

All drums, portable tanks, pipe lines, pumps, etc., used in transferring oil and related liquids comply with engineering standards and are inspected and tested as required.

Date November 21, 1975Superseding Date NoneG. Security

All plant storage and operating facilities are located inside a security fence. Access gates are kept locked in off-hours, and full time guard protection is provided. Standby valves and pumps are locked and tagged when not in use, and pipe lines are capped or blanked to prevent accidental discharge of materials.

Prepared By:

John N. Wall
John N. Wall

Approved: Environmental Control Coordinator:

L. J. McAllister

Approved: Plant Manager:

R. H. Clark

Date:

1/9/76

Certified:

Thomas L. Stewart

Date:

12/11/75

HISTORY OF PRIOR SPILLSFebruary 27, 1975

One hundred and fifty gallons of acrylic resin overflowed a storage tank during a three minute interval. The resin discharged via the tank vent pipe on to the building roof where approximately 50 gallons escaped by way of the roof drain to the municipal storm sewer.

The overflow occurred when transferring a completed batch from the resin kettle to storage while at the same time blending some reworked material into the same tank. Although the storage tank is adequate to hold a normal charge from the resin kettle, the addition of the rework material resulted in exceeding the tank capacity.

The municipal storm sewer into which the spill occurred flows underground through the plant property and then through a residential area for about 3/4 mile at which point it discharges into an open ditch. The stream at this point is about one foot deep and 8 - 10 feet across. The stream eventually discharges into the Maumee River approximately 5 miles from the plant.

The spill was detected promptly and a boom was installed at the point the underground line emerges into the open ditch. A contractor with pumper unit was called in to skim off the floating material contained by the boom. Since the material coagulated and became puffy, it is felt this action was successful in recovering all material and preventing any from proceeding further down stream and entering the Maumee River.

A new standard practice which requires 10% freeboard be maintained on storage tanks has been inaugurated to reduce the possibility of a tank overflowing.

All appropriate environmental agencies were notified. These appeared satisfied with the action the plant had taken. No damage was done to the local environment.

The U. S. Coast Guard subsequently imposed a fine of \$150. Because the stream was not considered navigable at this point and, therefore, not within the Coast Guard's jurisdiction, the fine was paid under protest.

April 30, 1975

Approximately 50 gallons of styrene were discharged into the municipal storm sewer. The spill resulted from failure of an asbestos gasket at a basket strainer in a 2 inch suction line leading from a 30,000 gallon outside storage tank to a transfer pump.

April 30, 1975 continued

The leak from the flange drained into a concrete pit which contains an automatically operated sump pump used to empty the pit of rain water. The styrene was, therefore, inadvertently pumped directly into the storm sewer.

The municipal storm sewer flows underground for approximately 3/4 miles at which point it emerges into an open ditch. The stream at this point is about one foot deep and 8 - 10 feet across.

The spill was discovered within approximately 15 minutes by an operator who detected an odor from the sewer manhole. A local industrial waste contractor was called in immediately and installed floatation collars across the open ditch. A second floatation collar was installed further downstream as an added precaution. It is believed all material was retained by these collars and was recovered by the contractor.

All appropriate environmental agencies were notified and appeared to be satisfied with the action taken by the plant. No damage was done to the local environment, and no citation was received.

A number of steps are being taken by the plant to minimize the possibility of another spill.

- a) The sump pump is no longer operated automatically.
- b) Asbestos gasket material has been replaced by Teflon[®] which is the type normally used for this service.
- c) The valve to the recirculating line will be left open at all times so that pressure cannot build up in the suction line.
- d) A study is being made to divert Process waters entry into the 48" tile of the municipal storm sewer to a downstream location and install 1500 gallon sumps at the present entries to impound any spills reaching there.

November 3, 1975

At 3:00 p.m., November 3, 1975, approximately two gallons of aliphatic hydrocarbon liquid in vapor form was emitted from a weigh scale tank vent line and deposited on a gravel and asphalt roof. One gallon of the thinner plus dissolved roofing compound escaped by way of a roof drain to the municipal storm sewer.

The incident occurred when resin at 325°F was pumped into a weigh scale tank containing a mixture of thinners. A condenser normally returns the thinner vapors to the tank but in this case, a pressure build up vented the vapors to the roof where they condensed.

November 3, 1975, continued

The spill was detected promptly. Sorbent booms and pads were placed in two catch basins on the plant site. Two sorbent booms were installed at Shantee Creek outfall before the spilled material appeared at that point.

The use of the sorbent booms and subsequent removal of material by the Ace Oil Company was effective and prevented it from proceeding further down stream.

All appropriate environmental agencies were notified. The Coast Guard representatives came to the plant, took pictures and squeeze samples of sorbent pads. They also visited the site at Shantee Creek taking pictures and a sample.

The incident was thoroughly investigated and was reviewed with employees to prevent a repetition.

Roof drains in this area were removed from the storm sewer system and piped into a 550 gallon portable tank. This arrangement will prevent the recurrence of an incident as described above.

STANDARD PRACTICE V-10

Plant Toledo
Dept. General
Area All
Subject Spill contingency and Clean-Up Plan

Date: May 2, 1978
Superseding Date: New
By: Gary Curral
Approved: [Signature]

I. INTRODUCTION

A spill may represent an acute explosion, fire or pollution hazard or a combination of these hazards. Any spill calls for prompt effective action. Spills may be "Controlled", or kept within the manufacturing site or "uncontrolled", whereby material escapes the manufacturing site. The prime concerns in the event of a spill are personnel protection, property protection, containment and clean-up.

II. OUTLINE

- A. Uncontrolled Spill
- B. Controlled Spill
- C. Hazardous Material Handling

III. DETAIL

A. Uncontrolled Spill

1. An Uncontrolled Spill is one which discharges or deposits materials upon property or into waterways or causes offensive air pollution off the manufacturing site, in excess of permissable limits in violation of permits or control regulations or which could cause significant environmental damage.

2. Responsibility

- a. The Plant Engineer, or his designee, maintenance supervisor or shift supervisor, acting as Environmental Control Coordinator (EEC) will decide what action to be taken in event of a spill, he will be advisor to Plant Management in all situations involving spills or situations affecting the environment, he will have records kept of all times and activities during an emergency and he will be responsible for reports to governmental agencies and other interested parties in the Company.

- b. Area Supervision and personnel will make themselves available for consultation and must be prepared to cope with any emergency.
- c. The Laboratory Supervisor will place a chemist at the disposal of the environmental coordinator to advise on materials involved.
- d. The R-C-T foreman will provide consultation to the ECC on any hazardous materials spills. (See III-C)
- e. The S-code for the spilled material will be determined ASAP and relayed to the ECC and spill clean-up personnel.

3. Action Guide Lines

- a. The ECC aided by Service Department personnel will be assigned containment and clean-up duties.
- b. The plant may also move sorbent booms; skimmers, absorbent beads, drums, etc., to the Larchmont site by company vehicle if the ECC deems necessary.
- c. The Environmental Control Coordinator, if necessary, will call Ace Oil Service, 726-1521, who maintain 24 hour service with a variety of containment and clean-up equipment such as booms, skimmers, absorbents and vacuum equipment.
- d. Normally, material leaving the plant will appear in the open ditch in rear of Larchmont School in approximately 30 minutes. Time is most important in moving equipment to this area.
- e. Communications between the plant and the Larchmont area will be by two-way radio kept in the Maintenance Department.
- f. The ECC will phone notification to authorities and follow-up with written reports if required. (See Sec. III A, Para. 4d)

4. Reporting and Recording

- a. EEC will have kept a running log of events during a spill showing all times and happenings. This will be used for subsequent reports and as a historical record.
- b. After clean-up, a Spill Report (Form #P-1) will be completed by the ECC and area supervision. Copies will be sent to Management.

4. Reporting and Recording (continued)c. Notification-Plant Personnel

1. Environmental Control Coordinator

Plant Engineer	-	Ext. 240	
Maint. Supervisor	-	Ext. 346	RJW -
Shift Supervisor	-	Ext. 200	

2. Plant Manager	-	Ext. 242&202	RHC - 882-7826
Assistant Plant Mgr.	-	Ext. 242&202	JRL - 882-2925

3. Laboratory Supervisor	-	Ext. 243	RLM - 882-7870
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4. Service Area Super.	-	Ext. 222	RJB - 882-5454
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5. Gate House	-	Ext. 290	
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d. Notification-Off Plant

1. Toledo Pollution Control Agency - Mr. Edsel	-	247-6524
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2. Ohio EPA - Mr. Schultz	-	1-800-282-9378
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3. U. S. Coast Guard - P/O Hessling	-	259-6372
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4. Division of Wildlife - Mr. Mason	-	614-466-4603
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5. Ace Oil Service	-	726-1521
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6. Wilmington - C.W. Stahl, Ext. 774-4709, A.L. Dade, Ext. 774-3183, R. A. Mead, Ext. 774-3891.		
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e. Notification to News Media

Any news release will be made only by the Employee Relations Supervisor.

f. Reports

Written copies to government agencies will be made only with the advice and consent of Du Pont Legal Department.

5. Follow-Up

An investigation will be held following each Uncontrolled Spill. Recommendations will be made to prevent future spills and establish guidelines or make necessary revisions to existing procedures and/or facilities.

The meeting will be attended by Management, the ECC, Area Supervisor concerned, Laboratory Supervisor and other concerned individuals.

B. Controlled Spill

1. A Controlled Spill is one in which materials are prevented from leaving the manufacturing site in a condition which would violate government regulations.

B. Controlled Spill (continued)2. Responsibility

- a. Day Shift - The Area Supervisor will determine the action to be taken.
- b. 4:00 - 12:00 and 12:00 - 8:00 Shifts - The ranking member of supervision will determine the action to be taken.
- c. The R-C-T foreman will provide consultation in the event of a hazardous materials spill.
- d. The ECC will be notified, survey the scene and take charge. if material enters the sewer systems. (See Section III B.6)

3. Action Guidelines

- a. The Area Supervisor should immediately call the Plant Fire Chief and ECC to survey the scene.
- b. The Area Supervisor should make use of explosive meter readings to help in the determination of the degree of danger present. The Shift Mechanic is trained to take readings on this instrument which is stored in the maintenance office. The mechanic should be properly protected while taking these readings.
- c. Members of the Fire Brigade should be in stand-by readiness in case of a fire, if conditions require brigade support.
- d. The Area Supervisor shall have the option of calling the Toledo Fire Department if it is his opinion that such support is needed on a stand-by basis. The guard should be notified of the source of the spill to inform plant supervision responding to the call-in procedure or fire department personnel.
- e. Sight-seers must be kept out of the area and excess personnel returned to their work areas.
- f. Clean-up crews should be organized to account for their whereabouts at all times.
- g. Clean-up crews should be adequately protected with respiratory equipment, flame-retardant coveralls, boots, gloves, etc.

*
3. Action Guidelines (continued)

- h. The progress of the clean-up will determine how rapidly personnel may return to their work areas, but priority should be given to releasing the Toledo Fire Department at the earliest time.
- i. Guards should be instructed not to allow anyone to enter the plant who has not been called.
- j. Actual procedures for clean-up of a spill will vary with location and type of material, but the following general precautions should be taken:
 - 1. Restrain the area of the spill by damming with "Sorb-All".
 - 2. Refer to Section II-C for spills of hazardous materials.
 - 3. Where feasible, use of the special spill "pick-up" pump should be considered.
 - 4. Protect all personnel with the proper equipment such as, flame retardant coveralls and Scott Air Packs, if necessary.
 - 5. Work from outside of spill area toward center, if possible.
 - 6. After spill has been picked up, it may be necessary to mop a small area at a time, sixteen (16) square feet, with a suitable solvent followed immediately with a hot soap solution and then dry mopped.
 - 7. Other items to consider -
 - a. Shut off cooling water as soon as possible. (Some process equipment cannot be shut down safely, See III B6b.)
 - b. Put a seal over sewer manhole to prevent a spill from going into a sewer.
 - c. Plug sewer, roof drain, floor drains, etc. as required.

4. Maintenance of Spill Equipment

- a. Spill lockers are to be maintained in Resin 1-G alleyway all three floors of the "Dulux" area. Area supervision is responsible for maintenance of these lockers.
- b. The contents of the spill locker are to be posted on the outside of the door.

4. Maintenance of Spill Equipment (continued)

- c. The door is to be sealed with a lead seal.
- d. At least once per month the contents of these lockers are to be inspected to insure that all equipment is present and in satisfactory condition.
- e. Recommended contents of a spill locker should include:
 - 1. Six (6) pairs flame retardant coveralls.
 - 2. Four (4) squeegees and two (2) shovels - all spark proof.
 - 3. Six (6) pair overshoes or boots.
- f. Other spill protection equipment and location:
 - 1. Sorb-All - Stores Area - 1B-Basement
 - 2. Portable Pump - At water heater - 1G Passageway
 - 3. Manhole Seal - At each manhole location
 - 4. Floor Drain Plugs - Boiler House Pump Pit

5. Direction and Quantity of Flow

a. Tank vents

Since outside storage tanks are in diked areas, all major sewer spills will probably occur from tanks inside the buildings. Floor spills should generally be contained inside. Roof spills from tank vents, however, will discharge into the east or west storm sewers from roof drains. For example, 150 gallons of resin overflowed a storage tank onto the roof during a pumping operation 2/27/75.

b. Drums and Portable Tanks

A leaking drum would normally create a smaller spill (55 gallons) than a processing error. Manhole covers would have to be used on the drains north of the parking lot to prevent finished products from leaking into the main storm sewer. 550 gallon portable tanks are generally stored along the curb by the solvent tank farm pipes, further away from storm drains. The drum pad on the west side of the plant has no storm sewer drains.

5. Direction and Quantity of Flow (continued)c. Tank Wagons

The new tank wagon shed floor area will contain paint spills from the T/W compartments. Tank wagon spills of up to 7500 gallons could occur at the solvent tank farm, powerhouse or west dock which would be directed to east and west catch basins, respectively.

d. Flow Rates

The highest flow rates to the catch basin will occur during heavy rains. The average summer flow can approach 180 GPM in the west basin and 420 GPM in the east basin. The peak rates during rain approach 300 GPM in the west basin and 650 GPM in the east basin.

6. Controlled Spill in Catch Basinsa. Storm Sewer Effluent Monitors

Temperature and flow recorders along with combustible gas alarms have been installed in the storm sewers. The instruments are mounted on the east and west walls of 1-A basement. The Gas Analyzers have both visual and audible alarms on the east outside wall of 1-A (by the old T/W shed and vault 002). The analyzers also are connected to a panalarm in the gatehouse.

The alarm points are set at 40% L.E.L. in the east catch basin, in 001 manhole in front of the west basin, and in vault 002. Local switches next to the audio alarms can be used to manually silence the high-pitched buzzer.

The warning pilot light will stay on until the spill is cleaned up and the L.E.L. drops below 20%. The gas analyzer should then be reset, with the button on the front of the instrument and the audio alarm switched back on.

Anyone hearing or seeing a sewer alarm should immediately notify the Shift Supervisor. On day shift, the Plant Engineer or Maintenance Supervisor should also be notified immediately.

After notifying proper personnel, the catch basins should be visually examined to verify the presence of a spill.

6. Controlled Spill in Catch Basins (continued)b. A Spill in the Catch Basins

1. INITIAL ACTION: Observation and notification. Anytime a spill is visually observed in a catch basin, the Shift Supervisor or ECC should be notified, even if the sewer alarm has not sounded.

After notifying proper personnel, the person first seeing the spill should remain at the catch basin. The rate and color, etc. of the spill should be observed and told to the Supervisor on the scene. An obvious spill of considerable rate will go under or over the retention baffle. In that case, the valve downstream of the basin should be closed immediately, to prevent the spill from continuing down the storm sewer and off plant property.

2. Containment

Once a storm sewer valve is closed, the catch basin and upstream sewer tile will begin to fill up. The time required to fill the basin will depend on sewer flow but should be at least 10 minutes.

- a. Cooling Water

The R-C-T Foreman (Ext. 230, 298, 291) should be contacted. The R-C-T Foreman is responsible for switching resin kettles over to city water if necessary (resin cook room Ext. 322).

The Dulux area should also be notified (Ext. 353, 293, 200) before the well water is turned off. A spill known to be in the Dulux cooling water will not get trapped in the east catch basin. Dulux cooling water enters the storm sewer downstream of the east basin. Sorbent booms can be used in vault 002 and manhole 003 for Dulux solvent spills.

The power house mechanic (Ext. 250) or shift mechanic (Page Boy No. 21) should be contacted to turn off the well water booster pumps.

2. Containment (continued)a. Cooling Water

The Dulux, Drum Cleaning, Teflon and Sealant areas have cooling water that drains into the east and west storm sewer. The cooling water pumps can be shut off at the well water panel in front of the pump pit in the power house. (Pumps No. 2 and No. 3).

Before both can be turned off (in control room F, starters No. 4 and 105) the air compressor cooling water must be changed over to city water. This is done inside the compressor room on the west wall, by closing the "well" valve, turning the large orange valve 180° and opening the "city" valve.

If the spill is being caught in the east basin and Dulux must have cooling water, then city water can be valved to Dulux even though drum cleaning, Teflon and sealant is shut off. This city cooling water will enter the sewer at vault 002 downstream of the east basin. The city water valve is in front of the meter in the S. E. corner of 1-A basement.

Resin and Solvent Recovery (pump No. 1) and No. 2 Kettle pump No. 4) all return cooling water to the reservoir and should not add to the storm sewers. The alcohol still condensor does discharge into the east storm sewer, therefore, if the alcohol still is not running, both pump 1 & 4 can be left on since water from them returns to the powerhouse.

b. Upstream Manholes

Storm sewer openings upstream from the basin should be checked visually and or with a portable explosimeter to trace the source of the spill. Once the source is found, corrective action and clean-up should be started immediately with area personnel, see Part B.

b. Upstream Manholes (continued)

If ground or roof run-off is contributing to storm sewer water that must be removed from the catch basin, such upstream openings should be covered and sealed. The run-off should be re-directed, if possible, without flooding due to the extra pooling and water build-up.

c. Downstream Manholes

Storm sewer openings downstream of the basins should be checked to determine the progress of the spill. Manhole #003 east of the maintenance shop is the last opening in the main storm sewer before leaving the plant.

Sorbent booms and pads are kept in the east annex to the shop. A hose and suction nozzle can be attached to a permanent pump in the annex that discharges into a P/T by #003.

3. Spill Clean-Up From Basins

a. Durco Pump Cart

The "DURCO" pump can be used to empty the catch basins at a rate of 300 GPM. 480V outlets are available by both basins.

Open the smallest grate (150 lbs.) over the entrance section and remove any large particles that will now flow through the diffuser baffle. During normal flow, small drops of liquid spill should rise to the top in the middle section. The retention baffle will hold back this top layer of the spill to be skimmed or pumped out.

The spill should be pumped into P/T's. Do not seal the lids until the spill has been identified and it is certain that lined containers are not needed.

Ground the pumping cart and attach the ground clamp from the discharge hose to the P/T.

b. Portable Pump

For small spills or to remove a gradual build-up of surface pollutants, the small portable pump kept at the 1-G water heater by the Scott Air Paks can be used.

b. Portable Pump (continued)

Since all rain water from around the manufacturing buildings and from diked storage areas eventually drain into the storm sewers, any build-up of pollutants in the catch basins will be the total for the plant. All small quantities removed on a periodic basis should, therefore, be checked and filed on a spill form. If found to contain solvent, this form will then record the total amount of small drips, condensed droplets and normal run-off of pollutants from the plant.

7. Post Spill Action

A complete investigation should be made as soon as possible after the spill and spill report form forwarded to ECC. Form C-30 should be filled out by the foreman with the spill or the shift supervisor.

C. Hazardous Materials Handling

1. The R-C-T Area Foreman will provide consultation to Area Supervision and ECC in the event of any hazardous raw material spill. A hazardous material is defined as materials coded "S-5", "S-6" or "S-7". The R-C-T foreman may be consulted about clean-up procedures for other materials such as peroxides, etc., that represent a fire hazard, but are not toxic.
2. The R-C-T Foremen have available several sources of information. Special charts listing by code the raw materials used in an area and clean-up procedures. Specification sheets in the R-C-T Area Foreman's Office give further information on spill clean-up and first aid.
3. The R-C-T Foremen should follow the following priority in spill clean-up:

C. Hazardous Materials Handling (continued)

3. (continued)

- a. Treat and/or care for anyone splashed by a hazardous material.
- b. Protect individuals properly who are to clean-up the spill.
All others should leave the area if possible.
- c. Confine the spill. All measures should be taken to keep toxic material out of sewers. Retaining walls of sorball around a spill are effective.
- d. Absorb or neutralize spilled material per the specific instructions.
- e. Decontaminate area so that it is safe to work in.
- f. Make use of open head lined drums (734's) to dispose of materials picked up and any mop water. Do not seal drums until all visible signs of chemical reactions are complete.
- g. Label drums so that disposal can be handled properly.
- h. When doubt exists as to action to be taken, call for help.
- i. Where feasible, use personnel from area where spill occurred.
- j. It is the responsibility of the R-C-T Area Foremen to reorder at once, spill materials that have been consumed under his direction.

9

69-125

<u>CODE</u>		<u>EQUIPMENT</u>	<u>PROCEDURE</u>
H-201	S-5	Scott Air Pak, rubber gloves, impervious coat, boots.	Cover spill with Sorball or Vermic lite. Pick up Sorball and place in drums to be buried. Any remaining can be neutralized with a 2-3% solution of H-284 (Ammonia) and water.
H-273	S-5	Scott Air Pak, rubber gloves, impervious coat, boots. For large spills, use a full suit with Scott Air Pak, boots, and rubber gloves.	Cover spill with Sorball or Vermic lite. Pick up Sorball and place in drums to be buried.
H-284	S-5	Scott Air Pak, rubber gloves, boots, impervious coat.	Cover spill with Sorball or Vermic lite. Pick up Sorball and place in drums to be buried. Mop floor with water. Mop water can be dumped to the sewer.
H-349	S-5	Scott Air Pak, rubber gloves, boots, and impervious coat.	Cover spill with Sorball or Vermic lite. Pick up Sorball and place in drums to be buried. Mop floor with solution of one pound calcium hypochlorite per gallon of water.
H-377	S-3	Scott Air Pak, rubber gloves, boots, and impervious coat.	Add Sorball or Vermiculite to spill. Place in drums containing solution of two pounds of G-485 per gallon water. Every pound of H-377 takes pounds of the above solution. Add H-377 slowly with good agitation as heat is given off, and brown precipitate is formed. Hold 24 hours. Fill drums to be buried.
H-545	S-3		
H-614	S-5		
H-378	S-5	Fresh air mask or Scott Air Pak. Impervious coat, boots, rubber gloves.	Cover spill with Sorball or Vermic lite. Pick up using spark-proof tool and place in drums one quarter full of water. Seal drums and mark to be buried.
H-501	S-6	Fresh air mask or Scott Air Pak, impervious coat, boots, rubber gloves.	Sprinkle G-213 on spill. Mop up with 7% solution of G-213 in water. Fill all mop water and solid residue in drums and mark to be buried.
H-515	S-5		
H-536	S-3		
H-549	S-3		
H-721	S-6		
H-567	S-5	Scott Air Pak, rubber gloves, impervious coat, boots.	Cover spill with Sorball or Vermic lite. Pick up Sorball and place in drums. Fill drums with water and mark to be buried.
H-603	S-5	Scott Air Pak, rubber gloves, boots, impervious coat or apron with sleeve protectors.	Cover spill with Sorball or Vermic lite. Pick up Sorball and place in drums to be buried. Mop floor with soap and water. Mop with clean water. Put mop water in drums with the Sorball. Fill drums with water.
H-616	S-5		
H-631	S-5		
H-669	S-5		

<u>CODE</u>		<u>EQUIPMENT</u>	<u>PROCEDURE</u>
H-640	S-5	Fresh air mask or Scott Air Pak, impervious coat, boots and rubber gloves.	Sprinkle Sorball or Vermiculite on spill. Pick up using spark-proof tools and place in drum of H-237. Do not exceed 10% concentration of H-640. Mark drum to be buried.
H-710	S-5	Fresh air mask or Scott Air Pak, impervious coat, rubber gloves, boots.	Sprinkle Sorball or Vermiculite on spill. Place in drum one fourth full of H-596 plus 1% Para-Tertiary-Catechol Inhibitor. Mark to be buried.
G-245	S-4	Scott Air Pak, impervious coat, rubber gloves, boots.	Sweep up and place in drums to be buried. Mop up any remaining with water. <u>CAUTION</u> - Gives off heat when mixed with water.
G-723	S-6	Scott Air Pak or fresh air mask, impervious coat, boots, gloves.	Mop with 7% solution of G-213 or G-218 in water. Larger spills, sprinkle dry G-213 and then mop with above solution. All mop water to go into drums, to be buried.
G-744	S-6	Fresh air mask or Scott Air Pak, impervious coat, rubber gloves, boots.	Cover spill with Sorball. Flush Sorball and area with solution of one pound Calcium Hypochlorite per gallon of water. Pick up and place in drum one quarter full of this solution. Mop area with soap and water solution containing two ounces of Calcium Hypochlorite per gallon. Hold drum 24 hours. Mark to be buried. Make sure area well ventilated during cleanup.
G-748	S-5	Face shield, rubber gloves, apron, boots.	Mop with water and/or sweep material. Keep wet with water. Add 15 parts of a 50-50 mixture of H-41 and 7% solution of G-218 to every part of G-748. Hold for 24 hours and mark to be buried. Do not use sweeping compound to cleanup.
7. G-765	S-6	Scott Air Pak or fresh air mask, impervious coat, boots, gloves.	Sprinkle G-213 on spill, mop with water or flush to sewer with large amounts of water.
G-781	S-7	Full suit, Scott Air Pak, boots, rubber gloves.	Sweep up residue and place in container to be buried. Floor should be mopped with a water solution containing 1.6% Sodium Metabisulfate and 1.6% Potassium Persulfate. Solution should be buried.

<u>CODE</u>	<u>EQUIPMENT</u>	<u>PROCEDURE</u>
G-838	S-3 Fresh air mask or Scott Air Pak, impervious coat, boots, rubber gloves.	Sprinkle G-213 on spill. Mop up with 7% solution of G-213 in water. Place all mop water and solid resi in drum and mark to be buried.
G-1066	S-4 Impervious coat, dust respirator, rubber gloves and boots.	Sweep up material. Place in drum with H-30 at ratio of five parts G to 95 parts H-30. Mark to be buri
G-1224	S-6 Scott Air Pak, impervious coat, boots, rubber gloves.	Sprinkle G-213 onto liquid. Mop u area with 7% solution of G-213 and water. Dispose of all solids and liquids in drum to be buried.
KH-8550	S-6 Scott Air Pak, impervious coat, boots, rubber gloves.	Mop up spill with kill solution. Mop with clean water. Put all mop water in drums to be buried. <u>DO NOT FLUSH DOWN DRAINS.</u> Kill solution consists of 10% H-284, 10% of H-69, and 80% of H-506.

SPILL MATERIALS

SORB-ALL

Purchased as AUTO-DRI

Engelhard Minerals & Chemicals
Menlo Park, Edison, New Jersey
08817

SODA ASH (G-213)

Order as G-213

Usual Source:

Inland Chemical Company
Toledo, OhioPOTASSIUM PERSULFATE
(G-724)Purchase Commercial Grade
Open Market

PARA-T-BUTYL CATECHOL

Purchase Commercial Grade
Open MarketCALCIUM HYPOCHLORITE
OR
SODIUM HYPOCHLORATE

By "Chlorox" (Chlorine Bleach)

SODIUM META BISULFITE
(G-735)Purchase Commercial Grade
Open Market

HAZARDOUS MATERIALS - "DULUX" AREA

<u>CODE</u>	<u>CHEMICAL NAME</u>	<u>S-CODE</u>	<u>EQUIPMENT TO BE USED WHEN HANDLING</u>
H-603	Trimethyl Cyclohexanone	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>
H-616	Dimethyl Ethanolamine	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>
H-631	Diethylamine	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at the drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>
H-669	Triethylamine	S-5	Apron and sleeve protectors, rubber gloves, face shield and ventilation at drum bung. <u>DO NOT POUR INTO OPEN PAILS.</u>

HAZARDOUS MATERIALS - R-C-T AREA

<u>CODE</u>	<u>CHEMICAL NAME</u>	<u>S-CODE</u>	<u>EQUIPMENT TO BE USED WHEN HANDLING</u>
G-245	Calcium Oxide	S-4	Disposable coveralls, dust respirator, leather gloves
G-723	Butyl Acrylate	S-6	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation at drum bung.
G-744	Acrylonitrile	S-5	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation
G-748	Wetted Benzoyl Peroxide	S-5	Impervious coat or apron with sleeve protectors, rubber gloves, face shield
G-765	Acrylic Acid	S-6.	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation at drum bung.
G-781	Acrylamide	S-7	Full suit, carbon disk respirator
G-1066	"Vazo" Vinyl Catalyst	S-4	Impervious coat or apron with sleeve protectors, face shield and rubber gloves.
G-1224	Methacrylic Acid	S-6	Impervious coat or apron with sleeve protectors, face shield, rubber gloves and ventilation at drum bung.
H-284	28% Ammonium Hydroxide	S-5	Apron or coat, rubber gloves, face shield and ventilation at drum bung.
H-377	T-Butyl Peracetate	S-3	Rubber gloves, apron and face shield
H-378	Butyl Formcel	S-5	Apron or coat, rubber gloves, face shield, ventilation at drum bung.
H-501	2 Hydroxyethyl Acrylate	S-6	Impervious coat or apron with sleeve protectors, rubber gloves and face shield. Ventilation at drum bung.
H-515	2 Ethylhexyl Methacrylate	S-5	Impervious coat or apron with sleeve protectors, face shield, rubber gloves and ventilation at the drum bung.
H-536	Isobutyl Methacrylate	S-3	Impervious coat or apron with sleeve protectors, face shield, ventilation at drum bung.

HAZARDOUS MATERIALS - R-C-T AREA (Continued)

<u>CODE</u>	<u>CHEMICAL NAME</u>	<u>S-CODE</u>	<u>EQUIPMENT TO BE USED WHEN HANDLING</u>
H-545	T-Butyl Perbenzoate	S-3	Apron, rubber gloves, face shield.
H-549	Stearyl Methacrylate	S-3	Apron, rubber gloves, face shield.
H-614	Cumene Hydroperoxide	S-5	Impervious coat or apron and sleeve protectors, rubber gloves, face shield and ventilation at bung of drum (if ventilation not available, as with 5 gallon pails, use respirator with canister and face shield).
H-640	Di-T-Butyl Peroxide	S-5	Impervious coat or apron with sleeve protectors, rubber gloves, face shield and ventilation at top of drum.
H-710	Styrene	S-5	Impervious coat or apron, face shield, rubber gloves and ventilation at drum.
H-721	Ethyl Acrylate	S-6	Impervious coat or apron and sleeve protectors, face shield, rubber gloves and ventilation at outlet.
H-273	Isobutoxymethyl Acrylamide	S-5	Impervious coat, face shield, boots, rubber gloves, ventilation at outlet.
H-567	T-Butyl Peroxyisobutyrate	S-5	Impervious coat, airline mask, boots, rubber gloves, ventilation at outlet.
KH-8550	Hylene "W"	S-6	Impervious coat, boots, rubber gloves, face shield, ventilation at outlet.
G-838		S-3	Impervious coat, rubber gloves, face shield.

ALL SPILLS SHOULD BE CLEANED UP IMMEDIATELY!

EPA REGULATIONS MAINLY CONCERN
OIL POLLUTION WHICH INCLUDES PAINT

THE FOLLOWING LIST IS OF CHEMICALS NOT CONSIDERED AS OIL

EVEN THOUGH SOME MATERIALS ARE NOT CONSIDERED OIL, THEY MAY BE
CONSIDERED A HAZARDOUS SUBSTANCE AND SHOULD BE REPORTED.

TABLE I
UNOFFICIAL LIST OF CHEMICALS
EPA AND THE U. S. COAST GUARD DO NOT CONSIDER OIL

acetone
acrylonitrile
allyl alcohol
allyl chloride
butadiene
butane
butanol
butylene
butylene oxide
calcium chloride
caprolactam
carbon tetrachloride
caustic potash
caustic soda
chlorine
chlorobenzene
chloroform
cumene
cyclohexane
cyclopentadiene
dichlorobenzene
dichloroethane
dichloropropane
dichloropropene
diethanolamine
diethylbenzene
diethylene tetramine
diisobutylene
diisopropanolamine
dipropylene glycol
epichlorohydran
ethane
ethyl acetate
ethylbenzene
ethyl chloride
2-ethylhexanol
ethylene
ethylene diamine
ethylene dichloride
ethylene glycol
ethylene oxide
glycerine
heavy alkylate

hydrochloric acid
hydroxyethyl acrylate
hydroxypropyl acrylate
isoprene
light acrylate
MAPP gas
magnesium hydroxide
methyl alcohol
methyl chloride
methyl ethyl ketone
methylene chloride
monoethanolamine
naphthalene
pentane perchloroethylene
phenol
phthalate plasticizer
polyethylene glycols
polypropylene
propane
propylene
propanol
propylene glycol
propylene oxide
propylene dichloride
styrene
toluene
tetraethylene glycol
trichlorobenzene
trichloroethane
trichloroethylene
triethanolamine
triethylene glycol
triethylene tetramine
tripropylene glycol
vinyl acetate
vinyl chloride
vinyl toluene
vinylidene chloride
o-xylene
p-xylene
sulfuric acid
spent caustic soda
1,3-butadiene

Toledo Finishes Plant
Date: _____

TO: ENVIRONMENTAL CONTROL COORDINATOR
TOLEDO FINISHES PLANT

FROM: _____ Ext. _____

SPILL REPORT

Date of Spill _____ Time _____

Location: Area _____ Building _____

Equipment _____ Was Sample Taken for Analysis?

Material _____ Quantity _____ YES NO

Did Spill Enter Storm Sewer? _____ Sanitary Sewer? _____

Time Spill Control Coordinator was notified - Hour _____ Date _____

ACTION TAKEN TO CLEAN UP, DILUTE OR NEUTRALIZE SPILL: _____

FIRE EXTINGUISHERS DEPLOYED: SPECIFY EXT. NO.: _____

CAUSE OF SPILL: _____

ACTION TAKEN TO PREVENT RECURRENCE: _____

PREVENTATIVE ACTION COMPLETED: _____

*SIGNATURE _____

*NOTE: The person completing this form is to make copies and distribute them as soon as possible.

H. PERSONNEL TRAINING

Du Pont's safety program, since the last century, has stressed personal protection, fire prevention and the safe handling of "hazardous" materials--including raw materials, intermediates and finished products as well as wastes. The training for this program is presented to existing employees in small groups or to a new employee (at least new to handling HW) by a supervisor or the Solid Waste Coordinator.

Designation of the waste materials at this facility as hazardous under RCRA poses absolutely no new hazardous working conditions for site employees or site contractors.

H-1. Outline of Training Program

H-1a. Job Titles and Duties

The handling of RCRA defined HW's will not change the skills, practices or pre-requisites for any of the plant employess. Hence, their normal job or position descriptions are unchanged. A list of all the positions on the site that have activity involving "Hazardous Waste" storage and the person currently holding these positions, is attached. Position descriptions are available in personnel.

H-1b. Training Content, Frequency and Techniques

Since many of the subjects covered here are established, ongoing job requirements for handling raw materials, intermediates

and finished products at this site, all of the subjects were not given in a single, formal training session but are introduced over a period of time through safety meetings, disaster drills and on-the-job reviews.

Training is of these types:

1. Initial RCRA orientation discussion
2. New Employee training
3. Refresher Training (annual update)

For RCRA purposes, 1981 refresher training plus the initial RCRA orientation constitutes "Introductory Training". "New employees" are defined as those new to the positions described in H-1a.

To brief each employee on the significance of RCRA, an introductory slide/tape presentation was made in 1981. An outline of the material is attached. Technique used was lecture. Familiarization is only level of training required.

Other subjects covered in refresher training and method of presentation are:

1. Drum Handling (slide/tape)
2. Respirator fitting and use (hands on)
3. Spill-clean-up (slide/tape)
4. Static (programmed instruction)
5. Fire Response (2 drills per year)
6. Fire Extinguisher training (hands on)
7. DOT Regulations (discussion with leader)
8. Industrial hygiene (review check sheet)

-71-

The annual refresher work is done in conjunction with another established Du Pont training program called RHYTHM (Remember How You Treat Hazardous Materials) which is given to all site employees.

Records are maintained and reviewed annually. Individual history of the training is maintained until closure of the facility. Documentation will be kept for three (3) years after an individual is terminated.

H-lc. Training Director

There is no "training director" as such in the plant organization. The site Solid Waste Coordinator (and an alternate at this site) is responsible for HW training. Site Solid Waste Coordinators are trained through four (4) methods by the Department's Environmental Protection Coordinator:

- a. Literature and written directives
- b. Telephone contact (consultation and oral directives)
- c. Site visitations (internal audits and discussions)
- d. Workshops (peer group addressed by department and corporate staff)

This is a continuing education process covering RCRA regulations, waste reduction programs and waste disposal techniques and policies. The site coordinator often involves first line supervision in training their particular employees.

H-lđ. Relevance of Training to Job Position

As stated in the introduction, the Du Pont safety program, since the last century, has stressed personal protection, fire prevention and the safe handling of "hazardous" materials--including raw materials, intermediates and finished

products as well as wastes. Some of the relevance training includes; fire drills (twice yearly), fire extinguisher training (hands on training) and monthly safety programs (given to all employees). Therefore, designation of the waste materials at this facility as hazardous under RCRA poses absolutely no new hazardous working conditions for site employees.

H-1e. Training for Emergency Response

The types of training and drills outlined in H-1b have been a part of the plant's preparedness for decades. Individual response groups (fire brigade, first aid team, etc.) have periodic training to maintain their readiness and to train new members needed because of attrition. The extensive documentation attached to this plan covers the myriad of details of the site program.

H-2. Implementation of Training Program

As indicated in the attachment on the introductory RCRA training, individual training records are maintained by the Solid Waste Coordinator. A formalized program for persons transferring to the Service Area (where most of the HW drum handling is done) is also attached. Fork truck training and licensing is also reviewed annually.

HAZARDOUS WASTE STORAGE OPERATORS

<u>Job Title</u>	<u>Name</u>	<u>Duties</u>
Solvent Recovery Operator	E. Jacob B. Lambert W. Kone	Pumps dirty wash solvent(DWS) from one storage tank to another; pumps DWS to evaporator
Mechanic (Boiler Operator)	A. Case	Pumps DWS to boiler
Laborers	D. Bialecki R. Jenne G. Rosenberger P. Mc Hugh	*Moves HW containers to storage areas; recans and repairs leaks of HW containers. Prepares HW for shipment.
Factory Filler	D. Nappenbach D. Krueger C. Estel B. Myers T. Thurlow H. Hofbauer M. Burton R. Sheehy D. Beamon B. Urbanowski C. Stroller R. Strong D. Gartee	*Pumps DWS to lye vat tank storage area and labels waste drums

*The HW Portion of these duties are a very small part of their total job.

INTRODUCTORY R.C.R.A. TRAINING

A two (2) day training program presented 4/23/81 and 4/24/81 was a follow-up to the March, 1980 Plant Safety Co-op given all plant employees, which was an introduction to R.C.R.A. and its regulations. An outline of that program is as follows:

A. Definition of R.C.R.A., its purpose and definition of some new terms that are a part of this new regulation.

1. R.C.R.A. - Resource Conservation and Recovery Act passed October, 1976 and effective November 19, 1980.

- Main purpose - to protect human health and the environment from wastes not leaving a site by stack (Clean Air Act covers these) or by discharge to stream or sewer (Clean Water Act covers these).
- Secondary purpose - to encourage re-use, recycling, reclamation to cut the total amount of waste for disposal.
- Provides for "Cradle to grave" tracking and audits to prevent irresponsible dumping.

2. R.C.R.A. terms to know:

- a. "Solid Waste" in R.C.R.A. need not be solid as we think of, it can be liquid, sludge, etc. (any waste that does not go up the stack or down the sewer).
- b. "Hazardous Waste" (HW) is a solid which is listed by the EPA or has one of four dangerous properties.
 - Ignitable - flash point under 140°F (60°C) this includes most of our paints.
 - Corrosive - a strong acid or alkali.
 - Reactive - it is normally unstable and readily undergoes violent change when mixed with water generating toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.
 - Extraction Procedure Toxic - wastes with heavy metals that may leak out into ground water from an uncontrolled dump. Several of our products have lead and/or chromates.

3. Other R.C.R.A. terms:

- "Generator" - the site who "makes" hazardous waste -- all F&FP domestic sites are generators with an EPA Identification (ID) number; no license or permit is needed to generate.
- "Transporter" - a hauler of HW; also has an EPA ID number; hauler may have state or local permit or license. It is unlawful to ship (HW) by a hauler without an ID number.
- Hazardous Waste Management Facility (HWM) - an operation where one or more of these HW activities are conducted.
 - Treatment
 - Storage
 - Disposal
- Manifest - a new shipping paper describing the HW which must go with it when transporter leaves the generator's site. It must state information including ID numbers for the generator, transporter(s) and HWM facility (treater, storer or disposer). A copy SIGNED by all parties must come back to the generator so he knows where the HW went (cradle to grave tracking).

B. Records

- Training of each employee must be documented and reviewed annually.
- Individual history must be maintained until closure of the plant.
- Documentation must be kept for three (3) years after an individual quits or is terminated.

C. Additional Information included in the Program

- Newspaper clipping of how not to handle HW - Love Canal, Valley of the Drums, etc.
- Discussions on Waste Characterization Forms - what they are and their purpose - Each HW stream will have a WCF.
- How to label HW drums.
- How to dispose of lead/chromate pigment bags.
- Who to ask - "Is a waste hazardous?"

-76-

Finally, Du Pont has stressed personal protection, fire prevention and safe handling of "hazardous" materials, as well as wastes; therefore, designation of the waste materials of Toledo as hazardous under R.C.R.A. poses absolutely no new hazardous working conditions for the plant employees.

H. L. Dunn
Toledo Plant

- O DISCUSSIONS ON WASTE CHARACTERIZATION FORMS - WHAT THEY ARE AND THEIR PURPOSE - EACH HW STREAM WILL HAVE A WCF.
- O HOW TO LABEL HW DRUMS.
- O HOW TO DISPOSE OF LEAD/CHROMATE PIGMENT BAGS.
- O WHO TO ASK - "IS A WASTE HAZARDOUS?"

FINALLY, DU PONT HAS STRESSED PERSONAL PROTECTION, FIRE PREVENTION AND SAFE HANDLING OF "HAZARDOUS" MATERIALS, AS WELL AS WASTES; THEREFORE, DESIGNATION OF THE WASTE MATERIALS OF TOLEDO AS HAZARDOUS UNDER R.C.R.A. POSES ABSOLUTELY NO NEW HAZARDOUS WORKING CONDITIONS FOR THE PLANT EMPLOYEES.

H. L. DUNN

TOLEDO PLANT

TRAINING PROCEDURE-NEW EMPLOYEES

(5-DAYS)

MONDAY -

(each employee furnished with 8 x 12 envelope, pencil)

TUESDAY -

- Orientation check list and rules governing employee conduct and contraband materials on plant premises. (Conf. Room) (Item #1)
- Slide/Tape programs (2) and discussion "Drum Handling" covering breaking, rolling, dumping and "Drum Truck Handling".
- To Storeroom for gloves, towels, locker room for lockers.
- Safe elevator operation (elevator) (Item #2)
- Hands on drum handling, empties, full. Covers, breaking, rolling, taking off and putting onto pallets. Light and heavy drums.
- Drum trucks, hands on handling. (Wheeled drums to various areas) (Item #3)
- Scrap disposal program (Bob Munch)
- Discussion of "Dulux" Flow Chart. (Conf. Room) (Item #4)
- 2nd Tour of "Dulux" Area.

WEDNESDAY -

- Movie "Color of Danger". Discussion of proper use of fork lifts. (Conf. Room)
- Hands on basement fork lift.
- Hands on basement fork lift, transporter, drum upender.
- Respirator fitting, slide/tape. (Conf. Room)
- Respirator fitting in nurse's office.
- Electric fork lift, hands on. (Back Dock)

THURSDAY -

- Fred Peery-Safety Discussion. (Conf. Room)
- R. Baird - D.O.T. Regulations. (Conf. Room)
- Discussion "S" Codes. Industrial Hygiene (Item #5)
8-basic rules. Slide/Tape "The Acceptable Risk".
- Outside fork lift. (Receiving Area)

THURSDAY -

(Cont'd.)

- Fire Extinguisher Training (Mike Lettich) (Behind Boiler House)
- Demo of Cherry Picker in Warehouse (Ray Sheehy)
- Hands on instruction of palletizing, inspecting, figuring weights, stencilling drums on Filling Floor.
- Test on fork lift trucks (Item #6)

FRIDAY -

- Slide/Tape "Spill Cleanup" and discussion. (Item #7)
- Delivered drums from Receiving to 2nd floor. Third tour of "Dulux" Area.
- Static - movie-
Static - programmed instruction
- Hands on drum trucks, empty and full drums.
- Explanation and discussion of Job Description "Factory Filler".
- Slide/Tape "Vapor".
- Explanation of Batch Cards, discussion of Raw Materials (Item #8).

NEW EMPLOYEE CHECK SHEET-WAGE ROLL

Covered by supervisor after second week on plant

Date: _____

TO: _____

Foreman: _____

During your first two weeks as a Du Pont employee, we have tried to make you familiar with many important rules and procedures. Since all may have an effect on your future, we want to determine if you thoroughly understand them.

The following questions are to be answered in writing, so your supervisor will know whether or not further instruction is necessary.

Please write your answers on a separate sheet, attach to this sheet and return to your supervisor.

1. What should you do if unable to report for work as scheduled?
2. What do you do if you report in after the regular starting time?
3. To whom do you report to when returning to work after an illness?
4. Where are the Safety Rules for your area posted?
5. May matches or lighters be brought on the plant?
6. In what areas are matches and lighters prohibited?
7. How are goggle areas designated?
8. What would you do if you were splashed with caustic or acid?
9. Where is the nearest safety shower?
10. Where is the nearest stretcher located?
11. Is it necessary to report minor injuries such as slivers, bruises and scratches?
12. How soon after an injury occurs must it be reported?
13. What do you do if you are injured on the plant? At home?
14. Where are the fire extinguishers located in the area in which you work?
15. What are the parking lot rules?
16. When do you attach ground wires? Why?
17. Under what conditions can you drive a Fork Lift truck onto a tractor-trailer?
18. To whom may you make suggestions to improve your job or the product you make?
19. To whom will you give any change of address or telephone number?
20. In case of fire, where would you turn in an alarm?
21. List two items of protective equipment. Are there others?
22. Must I use hand rails when descending stairways?

jrb

RULES GOVERNING EMPLOYEE CONDUCT
AND
CONTRABAND MATERIALS ON PLANT PREMISES

ITEM #1

In order to protect employees and the Company, the following regulations are established. Employee actions contrary to these regulations will subject the employee to disciplinary action, including dismissal. In all cases where rules have been broken, the facts and merits of the case will be given serious consideration by Management before disciplinary action is taken.

It is not intended that these rules cover all causes for disciplinary action up to, and including, dismissal; they are intended, however, to cover infractions which are obviously contrary to the best interests of all concerned.

Any one of the following acts is cause for disciplinary action which could include dismissal:

1. Unsatisfactory Safety Performance. ✓
2. Unsatisfactory Job Performance.
3. Falsification of Records.
4. Wilfully abusing Company property, stealing, or committing dishonest acts.
5. Engaging in a fight on Plant property, or in activity that could provoke fighting.
6. Bringing weapons, intoxicants, illicit drugs or narcotics on Company property.
7. Bringing "strike anywhere" matches on the Plant, or having any type of match, cigarette lighter or flame-producing device in restricted areas.
8. Reporting for work under the influence of drugs or intoxicants.
9. Insubordination or deliberate refusal to comply with reasonable requests or instructions.
10. Unexcused absences or unsatisfactory attendance.
11. Immoral acts on the Plant.
12. Being away from the job without permission.
13. Acts of "horseplay" on Plant property.
14. Using or divulging, without permission, any confidential information acquired through employment with the Company.
15. Gambling on Plant property. (Note: This means gambling with dice, cards, lotteries, punchboards, the matching of coins, or other gambling for monetary gain. It also means acting as an agent for the purpose of collecting or paying off bets for personal gain or for an outside agency. It does not mean friendly matching for Coca-Cola, coffee, or other such items, but time is not to be spent away from the job, nor is Company equipment to be used in promoting pools.)
16. Offering any item for sale or soliciting for purchases of such items without express permission of Management.

I HAVE REVIEWED THE ABOVE RULES AND UNDERSTAND THEIR MEANING.

319

Signed: _____

Payroll No. _____

ELEVATOR OPERATION

Built-In Safety Features

1. In case of an emergency, dial "0" for the operator on days; dial "249" for the watchman on nights.
2. Explain how to turn on power and lights and use of emergency keys.
3. Explain the limit switches.
4. Free fall cut-off level and the bumpers at floor level.
5. Emergency escape through penthouse.

Load Limits

1. Maximum capacity is 8,000 lbs.
2. Fork lift trucks are not permitted to enter the elevators without the Service Foreman's presence.
3. Know the approximate weight of a load before placing on an elevator.
4. A transporter weighs approximately 1,500 lbs. Be sure to consider this weight when placed on an elevator with material.

Demonstration

1. Stress the potential hazards involved - keeping hands off gates, operation of elevator gates, etc.
2. Explain how to level an elevator using the sight glasses.
3. Observing and reporting water in elevator pits.
4. Shut elevator doors when not in use to prevent drafts in case of fire.

Employee's Signature

Supervisor's Signature

DRUM TRUCK HANDLING

Types of Drum Trucks

Basically, we have two types of drum trucks:

- a. Those able to stand by themselves (used primarily by Service Area)
- b. Those not able to stand by themselves (used in all areas throughout the plant)

General

All drum trucks, when not in use, must be placed out of the aisleway.

Never lay drum trucks down.

Report to your foreman drum trucks that are broken, hard to push, etc.

All drum trucks have guards on the upper part of the handle; be sure hands are always placed inside guards.

Review the proper method of picking up and setting drums down.

Special care must be exercised in handling drum trucks in "b" category above.

Demonstrate and explain dangers involved in removing drums from a pallet.

Never lift a drum without having the prongs positioned under the drum.

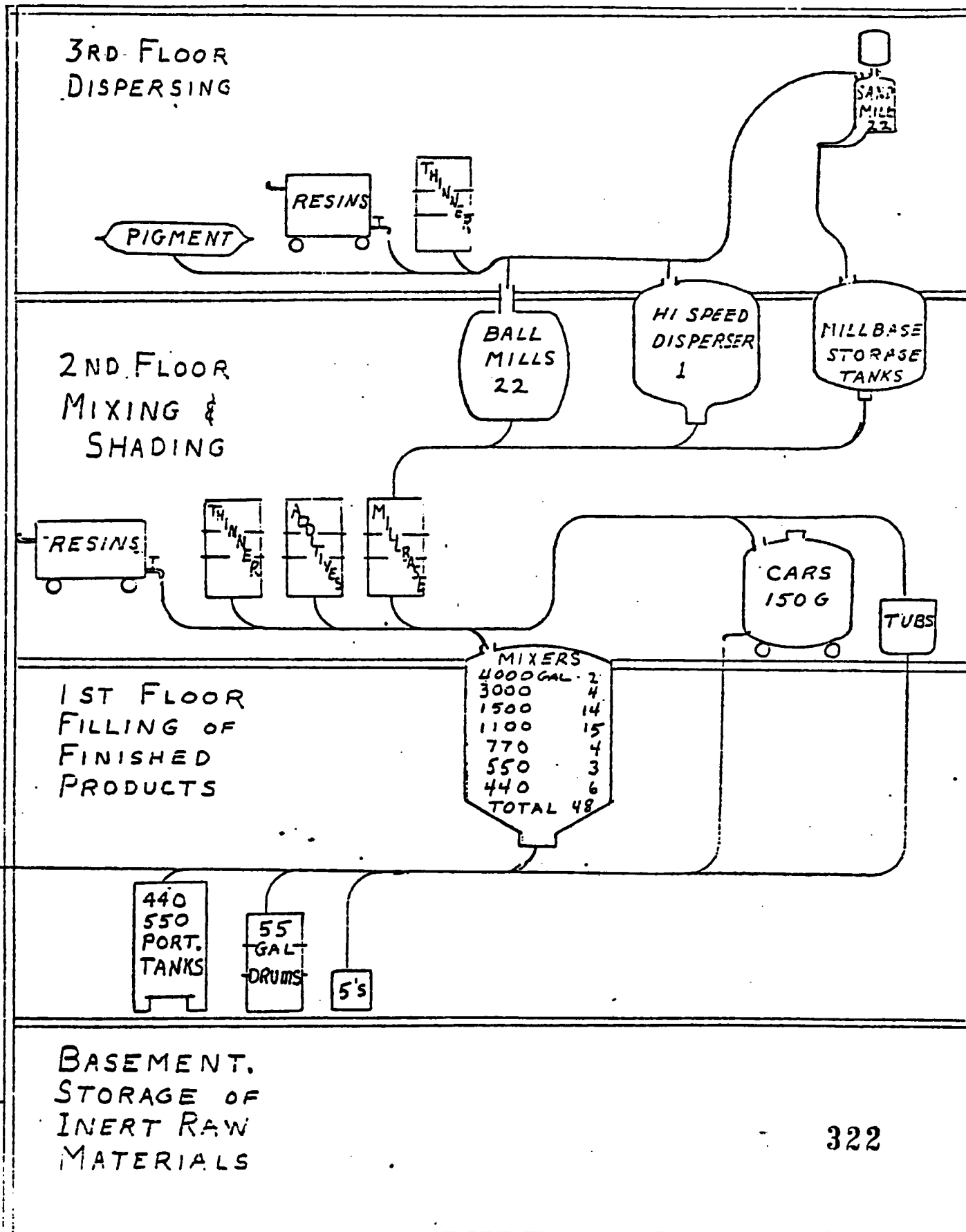
321

(Employee's Signature)

(Supervisor's Signature)

DULUX AREA, GENERAL FLOW PROCESS

ITEM # 4



EIGHT BASIC RULES OF INDUSTRIAL HYGIENE

1. No material is to be taken internally.
2. You must wash your hands before eating or smoking.
3. No food may be stored in a plant operating or storage area.
4. Close all containers when not in use. Spills must be cleaned immediately in accordance with established procedures.
5. All unnecessary personal contact with any material should be avoided.
6. The breathing of fumes or vapors of any material should be avoided.
7. Respirators must be worn when working with dusty materials.
8. All clothing contaminated with any hazardous material must be decontaminated or possibly thrown away. Your supervisor must be notified if you do get any hazardous material on your clothes or shoes.

GENERAL RULES

SPILL CLEAN-UP

Spills containing S-0 to S-4 material:

1. Stop spill source if possible.
2. Notify supervision.
3. Open spill locker and obtain personal protective clothing and equipment.
4. Provide necessary fire protection to protect clean-up personnel.
5. Dike and cover with Sorb-All.
6. Plug all area drains if necessary.
7. Provide adequate ventilation.
8. Pick up spill - start from the outside and work in - never work in the middle of a spill.
9. Start final clean-up. Solvent mopping confined to sixteen (16) square feet per application.

Spills containing S-5 to S-7 material:

1. Evacuate area immediately.
2. Notify immediate supervision.
3. Notify Resin foreman for clean-up.
4. Seek necessary help if you have been splashed with the spill material.

MULTIPLE CHOICE - Mark your answer on test answer sheet. ONLY ONE answer is correct.

1. BEFORE STARTING FORK TRUCK:

- a. Look to the front and rear making sure no one is there.
- b. Raise lift 2 or 3 feet from floor.
- c. Sound horn and start.

2. WHEN DRIVING A FORK LIFT TRUCK WITHOUT A LOAD:

- a. Tilt mast forward to improve vision.
- b. Keep forks approximately 6 inches from the floor.
- c. Put fork truck in fast speed to make use of the extra power.

3. WHEN DESCENDING A STEEP RAMP WITH A FULL LOAD:

- a. Position the load so it is level, place truck in forward gear and drive carefully.
- b. Drive forward, lean out so your vision will be unobstructed, sound horn and use hand brake.
- c. Tilt the load toward the mast and drive in reverse down the ramp.

4. WHEN LOADING OR UNLOADING TRUCKS:

- a. Truck wheels must be chocked, truck motor turned off, truck keys must be out of truck, go slow.
- b. Never drive the fork truck into the trailer.
- c. Sound horn, use high speed and keep the load near the floor.

5. WHEN PARKING A FORK LIFT TRUCK:

- a. Raise the forks and dismount.
- b. Lower forks to floor and dismount carefully. Be sure seat brake is set.
- c. Sound horn to warn other employees you are dismounting; lower forks to ground, grab the overhead guard and dismount quickly.

6. WHEN PICKING UP LOAD WITH A FORK LIFT TRUCK:

- a. Pick up load and take to destination.
- b. If load is too heavy for the truck, test it to see if it can be picked up.
- c. Know the capacity of your lift truck and do not overload it.

-2-

7. WHEN PICKING UP PALLETS OF MATERIAL:

- a. Don't waste time by inspecting the load, the other guy should have it loaded safely.
- b. Do not move unsafe loads.

8. TRUE OR FALSE

Keep the load against the carriage by tilting back the mast. This steadies the load when the truck is in motion.

9. TRUE OR FALSE

Lower the load as fast as possible. The hydraulic system should handle any severe strain.

10. THE FOLLOWING ARE GENERAL SAFETY RULES - MARK TRUE OR FALSE

1. Riders are never permitted on fork lift truck.
 2. Special care must be used on wet, icy and snow-covered pavements. Speed must be reduced, brakes applied lightly so fork lift truck will not skid.
 3. When carrying load that obstructs view, either travel in reverse or assign another employee to direct the fork lift truck operator while he drives in forward position.
 4. Parts of the body should not be placed outside of the fork lift truck or between the upright of the mast and the truck.
 5. Keep your mind on what you are doing so distraction will not result in unsafe practices.
 6. No fork lift truck should be operated in an unsafe condition.
 7. The fork lift truck must be operated so it can be stopped without hitting people or objects. The driver must be alert. He is responsible if the unexpected happens such as someone stepping in front of the moving vehicle.
 8. The fork lift truck driver must always be alert to low clearances from doorways, pipelines, lighting fixtures, etc.
-

I. CLOSURE AND POST-CLOSURE PLANI-1. Closure Plan

The attached closure plan including the initial closure cost estimate, was prepared in May, 1981 in accordance with 40 CFR 265.112. A revised cost estimate was made in May, 1982, using the annual escalation factor of 1.09. A further revision is included to address the closure of the proposed new tank (No. 14) and the revised gallonage estimates.

I-1a. Partial Closure

There are no plans for a partial closure of these storage facilities as long as the plant is operational. It is possible that a tank may be taken out of service and replaced with a new one some time during the life of the plant. In that case, a closure notice for the old tank and a request for permit amendment would be submitted to the Regional Administrator (and/or Ohio EPA).

I-1b. Final Closure

As long as the plant continue to make paint, there will be waste generated and stored prior to on-site recovery or off-site disposal. The plant has a time table for closure based on a yet to be determined closure date, "C".

I-1c. Maximum Waste Inventory

The storage capacity on Page 1, Form 3 of the original Part A application was 250,000 gallons in container storage (S01) and 30,000 gallons in tanks (S02). The closure cost estimates

-78-

assumed the worst case--the maximum inventory would be on hand at closure. The revised Part A (with new tank 14) now has this maximum inventory:

- Containers: 56,000 gallons
- Tanks (15): 24,000 gallons

The revised closure costs reflect disposal of this volume of HW.

I-1d. Closure Performance Standard

As indicated in the plan, the storage pad will be cleared by shipping all HW to a RCRA approved disposal site. The contents of the dirty wash solvents tanks will be burned for heat recovery or shipped to a RCRA approved incinerator. A clean-out of any sludges in tanks will be all that is needed to conclude the decontamination of the tanks. No post-closure maintenance is anticipated or required for these storage facilities.

I-1e. Schedule for Closure

The schedule in the plan (based on the unknown future shutdown date, "C") will allow approximately 90 days to ship the wastes after closure plan approval. Since disposal contracts are currently in effect, no delays in shipping off-site are anticipated.

I-1f. Disposal or Decontamination of Equipment

I-1g. Closure of Containers

I-1h. Closure of Tanks

The procedures to be used for these three sections and off-site disposal locations are given in the closure plan.

I-1i. Closure of Waste Piles

Not applicable to this site.

I-1j. Closure Plan Amendment

The only change anticipated at this time is the addition of Tank 14. Annual cost estimate escalations will be done in May each year. If any future process changes are desired, a revised closure plan will be prepared and submitted to the Regional Administrator (and Ohio EPA).

I-2. Post-ClosureI-3. Notice in Deed and Notice to Land Authority

Not required for this storage (only) facility.

I-5. Financial Assurance Mechanism for Closure

40 CFR 264.143 and 265.143, as revised at 47 FR 15032 (April 7, 1982), financial assurance can be shown by a "self-insurance" test. Attached is a copy of the required notice to the Regional Administrator which documents Du Pont's satisfaction of this test.

I-6. Post-Closure Cost EstimateI-7. Financial Assurance Mechanism for Post-Closure

Not required for this storage (only) facility.

I-8. Liability Requirements

40 CFR 264.147 and 265.147 as revised at 47 FR 16544 (April 16, 1982) also provided for the satisfaction of the \$1MM/\$2MM sudden occurrence liability through a "self-insurance" test. The combined notice showing satisfaction was attached at Section I-5 above. The non-sudden occurrence liability requirement does not apply to this storage (only) facility.

OF TANK 14. ANNUAL COST ESTIMATE ESCALATIONS WILL BE DONE IN MAY CLOSURE PLAN WILL BE PREPARED AND SUBMITTED TO THE REGIONAL ADMINISTRATOR (AND OHIO EPA).

I-2. POST-CLOSURE

I-3. NOTICE IN DEED AND NOTICE TO LAND AUTHORITY

NOT REQUIRED FOR THIS STORAGE (ONLY) FACILITY.

I-5. FINANCIAL ASSURANCE MECHANISM FOR CLOSURE

40 CFR 264.143 AND 265.143, AS REVISED AT 47 FR 15032 (APRIL 7, 1982), FINANCIAL ASSURANCE CAN BE SHOWN BY A "SELF-INSURANCE" TEST. ATTACHED IS A COPY OF THE REQUIRED NOTICE TO THE REGIONAL ADMINISTRATOR WHICH DOCUMENTS DU PONT'S SATISFACTION OF THIS TEST.

I-6. POST-CLOSURE COST ESTIMATE

I-7. FINANCIAL ASSURANCE MECHANISM FOR POST-CLOSURE

NOT REQUIRED FOR THIS STORAGE (ONLY) FACILITY.

I-8. LIABILITY REQUIREMENTS

40 CFR 264.147 AND 265.147 AS REVISED AT 47 FR 16544 (APRIL 16, 1982) ALSO PROVIDED FOR THE SATISFACTION OF THE \$1MM/\$2MM SUDDEN OCCURENCE LIABILITY THROUGH A "SELF-INSURANCE" TEST. THE COMBINED NOTICE SHOWING SATISFACTION WAS ATTACHED AT SECTION I-5 ABOVE. THE NON-SUDDEN OCCURENCE LIABILITY REQUIREMENT DOES NOT APPLY TO THIS STORAGE (ONLY) FACILITY.

I-9. PROOF OF COVERAGE BY A STATE FINANCIAL MECHANISM

THE MOST RECENT REVISION OF OHIO EPA HAZARDOUS WASTE RULES (PROPOSED IN APRIL, 1982) DO NOT ALLOW THE "SELF-INSURANCE" ALTERNATIVE TO SATISFY THE FINANCIAL REQUIREMENTS. OEPA DID NOT HAVE AN OPPORTUNITY TO ADOPT THE FEDERAL APRIL 7 AND 16, 1982

OHD 005041843
CHANGES WHEN THEIR PROPOSALS WERE MADE. HOWEVER, SINCE THE APRIL, 1982 PROPOSAL ESSENTIALLY MODIFIES OPEA HW RULES TO EQUAL FEDERAL EPA REGULATIONS, WE PRESUME FUTURE FEDERAL CHANGES WILL BE MIRRORED IN OEPA RULES. THEREFORE, WE HAVE NOT EXECUTED ANY OTHER INSTRUMENT OF FINANCIAL REQUIREMENT SATISFACTION, BUT RATHER RELY ON MEETING THE FEDERAL REGULATIONS AS BEING SUFFICIENT.

SUMMARY

THE FACILITY'S CLOSURE PLAN WILL ADHERE TO THE PERFORMANCE STANDARD SPECIFIED IN 264.111.

ALL HAZARDOUS WASTE IN TANKS WILL BE DRAINED INTO PORTABLE TANKS OR DRUMS. THESE TANKS WILL BE RINSED WITH COMMON SOLVENT AND AGAIN DRAINED INTO DRUMS. THE TANKS WILL THEN BE DRIED UNTIL NO RESIDUAL WET MATERIAL IS LEFT. ALL DRUMS AND PORTABLE TANKS OF WASTE WILL BE DISPOSED OF UTILIZING EXISTING CONTRACTS FOR INCINERATION. NO CORROSIVE OR FORMALDEHYDE WASTE EXISTS ON THE PLANT OR IS EXPECTED IF CLOSURE DOES TAKE PLACE.



E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

WILMINGTON, DELAWARE 19898

LEGAL DEPARTMENT

cc: R. D. Meitzler, Finance

R. A. M.

July 1, 1982

JUL 20 1982

MANUFACTURING ENVIRONMENTAL COMMITTEE

FINANCIAL REQUIREMENTS

A. L. D.
JUL 6 - 1982

I attach a copy of the Finance package we have submitted to satisfy requirements for liability coverage and closure/post-closure care at our hazardous waste management facilities. We have thereby satisfied our financial obligations by a "means" test based on company assets - in lieu of procuring insurance, letters of credit, etc., from third parties.

This package was mailed solely to those Regional Administrators retaining responsibility for such facilities (e.g., Region II since New York has yet to be delegated the program. For a complete list of such facilities, see Exhibits B and C), and those states which have precisely mirrored the federal program (Exhibit D, Texas and Oklahoma). New Jersey is a special case since it has its own financial requirements but has yet to be delegated program responsibility. A separate letter was therefore sent to Region II - copies are enclosed for the appropriate departments.

Regarding plants in those states which have been delegated responsibility but have no financial requirements (all those in Exhibit E), we should encourage such states to mirror EPA's requirements. Then we merely require an address change to deal with such programs.

Certain departments have expressed an interest in forwarding a courtesy copy of this package to Exhibit E states. I have no objection. If such a copy is so forwarded, I suggest a brief cover letter to the states explaining that the package was prepared to meet EPA requirements in those states where that Agency is administering the program. The cover letter might also encourage such states to adopt identical requirements.

A copy of the Annual Report was also mailed to these officials. I do not attach it.

Bernard J. Reilly
BERNARD J. REILLY

BJR:cde
Att.

RCRA FINANCIAL TEST LETTERS

ADDRESSEES

Ms. Jacqueline Schafer
Regional Administrator
Environmental Protection Agency
26 Federal Plaza
New York, NY 10007

Mr. John J. Franke, Jr.
Regional Administrator
Environmental Protection Agency
324 E. 11th St.
Kansas City, MO 64106

Mr. Peter Bibko,
Regional Administrator
Environmental Protection Agency
Curtis Bldg., 6th and Walnut Sts.
Philadelphia, PA 19106

Mr. Steven Durhan,
Regional Administrator
Environmental Protection Agency
1860 Lincoln St.
Denver, Colorado 80295

Mr. Valdas K. Adamkus,
Regional Administrator
Environmental Protection Agency
230 S. Dearborn Street
Chicago, IL 60604

Texas Department of Water Resources
P.O. Box 13087, Capitol Station
Austin, Texas 78711

Attn: Robert G. Brydson, Jr.
Permits Division

Department of Health
An Agency of the State of Oklahoma
Hazardous Waste Branch
P.O. Box 53551
Oklahoma City, Oklahoma 73152

TOLEDO PLANT
CLOSURE PLAN
HAZARDOUS WASTE STORAGE FACILITY

I. General

A. Purpose

This plan outlines the steps required to close an Interim Status RCRA storage facility. Included are plans for off-site disposal of all stored waste and decontamination of all surfaces and tanks.

B. Applicable Regulations

This plan complies with the provisions of 40 CFR Part 265, Sub-Part G. - Closure and Post-Closure, for Interim Status Hazardous Storage Facilities. Specific Sections to be addressed are:

1. 265.111- 265.115; these can be found at 46 FR2875 (January 12, 1981).
2. 265.197, which can be found at 45 FR33245.

C. Organization

This plan covers both general requirements and specific tasks for various types of storage as is appropriate for this site in these sections:

- II. Closure Performance Standard
- III. Administrative Requirements
- IV. Time of Closure
- V. Schedule of Closure
- VI. Disposal
- VII. Decontamination
- VIII. Certification
- IX. Cost Estimates
- X. Specific Closure Activity

- A. Drum pads
- B. Storage tanks

Section X is prepared in a modular manner for sites with more than one storage area or tank which allow a partial closure of the facility without rewriting the plan.

II. Closure Performance Standard

The environmental standard which governs all hazardous waste management (HWM) facility closings is given in §265.111:

The owner or operator must close his facility in a manner that:

- (a) Minimizes the need for further maintenance, and
- (b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere.

III. Administrative Requirements

Certain record keeping and other administrative duties relative to closure are specified for the owner/operator of a HWM facility (see § 265.112).

- A. This plan must be complete by May 19, 1981, but may be revised at any time during the active life of the facility.
- B. It must be amended within 60 days of changes in:
 - 1. Operating plans or facility design which affect the closure plan;
 - 2. Change in the expected year of closure.
- C. The written plan and all amendments must be available at the facility until closed and certified.
- D. The maximum inventory of waste storage must be documented (see Section IX by type of storage).
- E. An estimate of the time of closure is required (see section IV)
- F. The plan must be submitted to the Regional Administrator at least 180 days before expected closure.
- G. The cost of closure must be updated annually for the annual report of the facility to EPA.

IV. Time of Closure

- A. This storage facility is on the site of an active production facility for which there has been no forecasted closure. It is expected to receive all Hazardous Waste generated on the site prior to treatment and/or shipment off-site for disposal. Therefore, there can be no estimated closure time now.
- B. Closure of the production facility would encompass a phase-out over a period of at least a year or more. This plan will be amended with a specific closure date estimate within 60 days of a firm commitment to cease production and/or stop waste generation.
- C. Changes in production volume or process may dictate a partial closing at the site. When these changes are known, an amendment will be made with an estimated closure date.

V. Schedule of Closure

- A. The schedule of closure is a list of steps -- some of which are required by regulations (see references in each step) -- which include both administrative and physical closing actions.
- B. The time frame for these steps is relative to the date when closure commences and are referenced as C minus x months and C plus y months.
- C. The steps of closure are:

<u>Time</u>	<u>Step</u>
1. C minus 10 mos.	Determine when closure is to occur
2. C minus 6-10 mos.	Make any amendments needed; prepare copy for Regional EPA
3. C minus 6 mos.	Submit copy to Regional EPA for approval (§ 265.112)
4. C minus 3 mos.	EPA must have approved or rejected (Ibid.)
5. C minus 1-3 mos.	Conclude contracts, train operators and mechanics as needed.
6. C	Start closure
7. C plus 2 mos.	Determine if closure can be complete in 3 months; if yes, no action; if n apply for an extension (§ 265.113).
8. C plus 3 mos.	Complete closure; obtain certificati

- D. When amended for a known closure, the C plus and minus dates will be specified in the plan.

VI. DISPOSAL

- A. This section of the plan outlines specifically the disposal site where each Hazardous Waste stream will go and in what type containers. An amendment is necessary whenever the site designated is changed for any reason.
- B. The Waste Streams and their disposal site:
 - 1. Still bottoms (F003/F005), drums - ship to Robert Ross & Sons, Inc., Grafton, Ohio, under existing contract of OT-9000, Waste Code WOT-12 - 6385.
 - 2. Waste Paint Liquid (D001, drums - ship to same as above. Waste Code WOT-13 - 6386.
 - 3. Clean out dirty wash solvent tanks (F003/F005, in drums) ship to Systech, Box 266, Paulding, Ohio, under existing contract of Waste Code WOT-16.

VII. DECONTAMINATION

- A. This section of the closure plan outlines who will do the necessary decontamination of the storage facilities at closure.
 - 1. Drum pad - plant personnel
 - 2. Solvent tanks - Ace Oil

VIII. Certification

When closure is completed, the owner or operator must submit to the Regional Administrator certification both by the owner or operator and an independent registered professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan.

IX. Cost Estimates

- A. Regulations require a cost estimate for all costs of carrying out the closure plan be prepared in current (Spring 1981) dollars and escalated or upgraded on the annual report yearly (265.142 (c), 46FR2878, January 12, 1981).

The attached cost estimation sheet(s) cover(s) all the steps in closure of this site and proper disposal of all hazardous waste material on hand at an off-site RCRA location.

- B. Estimates are to allow for the maximum inventory as discussed in Section III-D and listed on the attached sheets.
- C. Amended or updated sheets are attached in front of the older estimates by type of storage.

REVISED CLOSURE COST ESTIMATES

8-6-82

TOLEDO PLANT

May, 1982 cost rates used; volumes adjusted to reflect the revised estimates and more accurate sizing of tanks in Part B application; includes a specific 10,000 gallon tank proposed to be used for Flint dirty wash solvent storage.

Date 8/6/82

No. D- 1

Supercedes Date 5/5/82

COST OF CLOSURE ESTIMATE
DRUM STORAGE FACILITY

Toledo Plant

A. Name or number of storage pad HW container pad

B. Maximum gallons (permitted capacity) 56,000

C. Cost per drum to send to disposal (including freight) by waste type (use additional sheets if there is more than 3 waste streams):

1. Waste stream Waste Paint Liquid (WCF# 13)

a. Max. No. of drums: see C-3

b. Disposal now at: Robert Ross & Sons
Grafton OH

c. Current contract cost/drum (delivered) \$ 24.36

d. Total Cost (AXC) \$ _____

2. Waste stream Still Bottoms (WCF# 12)

a. Max. No. of drums: see C-3

b. Disposal now at: Robert Ross & Sons
Grafton OH

c. Current contract cost/drum (delivered) \$ 24.36

d. Total Cost (AXC) \$ _____

3. Waste stream all of about plus misc. (WCF# —)

a. Max. No. of drums: 1018

b. Disposal now at: Robert Ross
Grafton, OH

c. Current contract cost/drum (delivered) \$ 24.36

d. Total Cost (AXC) \$ 24798

D. Decontamination Cost

The estimated cost for clean-up of storage pad (scrape, wash, flush, dry with absorbent, etc. -- or whatever is needed) of any spill, leak, drip, or residue of the stored hazardous waste: \$ 109.

E. Total cost of closure (C1d, C2d, etc., plus D) \$ 24,907.

Date 8/6/82

No. T -1

Supersedes Date 5/5/82

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
Toledo Plant

- A. Name or number of storage tank(s) TK1-A1
- B. Maximum gallons (permitted capacity) 750
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream Dirty Wash Solvent (WCF# 16)
2. No. of drums to drain (maximum) 14
3. Estimated No. of drums for decontamination material 2
4. Disposal now at: Systems Technology
Box 266
Paulding OH

5. Current contract cost per drum (delivered): RS 21.58
6. Current cost of drum to be used: \$ 19.08 each
7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 650.56
- } 40.66

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 632
2. Materials (to neutralize, flush, etc.) \$ 339
3. Drums (see C3, 5 & 6 above)
4. Other \$ 327
- E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 1,949.

Date 8/6/82

No. T -2

Supersedes Date 5/5/82

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT

A. Name or number of storage tank(s) TK2-8G1

B. Maximum gallons (permitted capacity) 5000

C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream Dirty Wash Solvent (WCF# 16)

2. No. of drums to drain (maximum) 91

3. Estimated No. of drums for decontamination material 5

4. Disposal now at: Systems Technology
Box 266
Pandora, ON

5. Current contract cost per drum (delivered): RS 21.58

6. Current cost of drum to be used: \$ 19.08 each

7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 3,903

} 40.66

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 2529.

2. Materials (to neutralize, flush, etc.) \$ 1991

3. Drums (see C3, 5 & 6 above)

4. Other \$ see T-1

E. Total cost of closure (C7 plus D 1,2,& 4) \$ 8423

Date 8/6/82

No. T 3

Supercedes Date 5/5/82

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT

- A. Name or number of storage tank(s) TK 9, TK 10, TK 15
- B. Maximum gallons (permitted capacity) 3,350
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):
1. Waste stream Dirty Wash Solvent (WCF# 16)
 2. No. of drums to drain (maximum) 61
 3. Estimated No. of drums for decontamination material 2
 4. Disposal now at: Systems Technology
Box 266
Paulding, OH
 5. Current contract cost per drum (delivered): RS 21.58
 6. Current cost of drum to be used: \$ 19.08 each
 7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 2,562
- } 40.66

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 1897
2. Materials (to neutralize, flush, etc.) \$ 1592
3. Drums (see C3, 5 & 6 above)
4. Other \$ see T-1
- E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 6,051

Date 8/6/82

No. T -4

Supersedes Date new (Separation of Tanks)

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT

- A. Name or number of storage tank(s) TK 13
- B. Maximum gallons (permitted capacity) 3000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):
1. Waste stream Dirty Wash Solvent (WCF# 16)
 2. No. of drums to drain (maximum) 55
 3. Estimated No. of drums for decontamination material 2
 4. Disposal now at: Systems Technology
Box 266
Paulding, OH
 5. Current contract cost per drum (delivered): RS 21.58
 6. Current cost of drum to be used: \$ 19.08 each
 7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 2,318.
- } 40.56

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 1897
2. Materials (to neutralize, flush, etc.) \$ 1592
3. Drums (see C3, 5 & 6 above) -
4. Other \$ see T-1
- E. Total cost of closure (C7 plus D 1,2,& 4) \$ 5807.

Date 8/6/82

No. T-5

Supersedes Date 5/5/82

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT

A. Name or number of storage tank(s) TK14 (FLINTWASH - PROPOSED)

B. Maximum gallons (permitted capacity) 19,000

C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream Dirty Wash Solvent (WCF# 16)

2. No. of drums to drain (maximum) 182

3. Estimated No. of drums for decontamination material 4

4. Disposal now at: Systems Technology
Bldg 266
Parkway, OH

5. Current contract cost per drum (delivered): RS 21.58

6. Current cost of drum to be used: \$ 19.08 each

7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 7563.

} 40.66

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 763

2. Materials (to neutralize, flush, etc.) \$ 436

3. Drums (see C3, 5 & 6 above)

4. Other Certification \$ 55

E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 8,817

Date 8/6/82

No. T -6

Supercedes Date new (separate tanks)

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT

- A. Name or number of storage tank(s) TK 11 & TK 12
- B. Maximum gallons (permitted capacity) 1720
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream Dirty Wash Solvent (WCF# 16)
2. No. of drums to drain (maximum) 32
3. Estimated No. of drums for decontamination material 2
4. Disposal now at: Systems Technology
Box 266
Paulding, OH

5. Current contract cost per drum (delivered): RS 21.58
6. Current cost of drum to be used: \$ 69.08 each
7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 1,382.
- } 40.66

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 632
2. Materials (to neutralize, flush, etc.) \$ 339
3. Drums (see C3, 5 & 6 above)
4. Other \$ see T-1
- E. Total cost of closure (C7 plus D 1,2,& 4) \$ 2,353.

Attention: RCRA Financial Requirements

Gentlemen:

I am the chief financial officer of E. I. du Pont de Nemours & Company, 1007 Market Street, Wilmington, Delaware 19898. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage and closure and/or post-closure care as specified in Subpart H of 40 CFR Parts 264 and 265.

Liability Coverage

The owner or operator identified above is the owner or operator of the following facilities for which liability coverage is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265 (see Exhibit A).

Closure and Post-Closure Care

1. The owner or operator identified above owns or operates the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility (see Exhibit B).
2. The owner or operator identified above guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure and post-closure care of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility (see Exhibit C).
3. In states where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this owner or operator is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by such a test are shown for each facility (see Exhibit D).

4. The owner or operator identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility (see Exhibit E).

* * * *

This owner or operator is required to file a Form 10-K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this owner or operator ends on December 31. The figures for the following items marked with an asterisk are derived from this owner's or operator's independently audited, year-end financial statements for the latest completed fiscal year, ended December 31, 1981.

40 CFR 264.151(g) PART B
CLOSURE OR POST-CLOSURE CARE AND LIABILITY COVERAGE

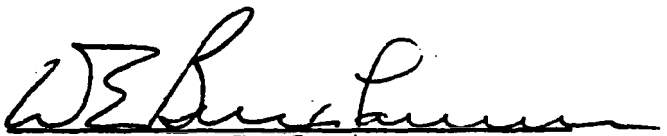
Alternative I
(dollars in millions)

1. Sum of current closure and post-closure cost estimates	\$ 37
2. Amount of annual aggregate liability coverage to be demonstrated	8
3. Sum of lines 1 and 2	45
* 4. Total liabilities	13 371
* 5. Tangible net worth	10 439
* 6. Net worth	10 458
* 7. Current assets	10 021
* 8. Current liabilities	4 894
9. Net working capital	5 127
*10. The sum of net income plus depreciation, depletion and amortization	2 545
*11. Total assets in U.S.	16 371

	<u>Yes</u>	<u>No</u>
12. Is line 5 at least \$10 million?	X	
13. Is line 5 at least 6 times line 3?	X	
14. Is line 9 at least 6 times line 3?	X	
*15. Are at least 90% of assets located in the U.S.?		X
16. Is line 11 at least 6 times line 3?	X	
17. Is line 4 divided by line 6 less than 2.0?	X	
18. Is line 10 divided by line 4 greater than 0.1?	X	
19. Is line 7 divided by line 8 greater than 1.5?	X	

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151 (g) as such regulations were constituted on the date shown immediately below.

June 29, 1982
Date


W. E. Buxbaum
Vice President - Finance

E. I. DU PONT DE NEMOURS & COMPANY

Facilities For Which Liability Coverage Is Being
Demonstrated Through The Financial Test Specified
In Subpart H Of 40 CFR Parts 264 And 265

	<u>EPA Identification Number</u>	<u>Name and Address</u>
<u>EPA Region II</u>		
	NYD000632125 NYD045604964	Rochester Plant P. O. Box 1009 Rochester, NY 14603
<u>EPA Region III</u>		
	WVD005012851	Belle Plant 901 W. Du Pont Ave. Belle, WV 25015
	WVD045875291	Washington Works P. O. Box 1217 Parkersburg, WV 26101
	WVD041952714	Potomac River Works P. O. Drawer 863 Martinsburg, WV 25401
<u>EPA Region V</u>		
	MID005512066	Flint Plant 1060 E. Hamilton Ave. Flint, MI 48502
	MID000809640	Montague Works P. O. Box A Montague, MI 49437
	MIT099124349	Troy Laboratory 945 Stephenson Hwy. Troy, MI 48084
	MND042649004	Biwabik Plant P. O. Box 170 Biwabik, MN 55708

EPA Identification Number	Name and Address	Estimated Costs (dollars in thousands)	
		Closure	Post-Closure
<u>EPA Region V (Cont'd)</u>			
OHD004287322	Circleville Plant P. O. Box 89 Circleville, OH 43113	\$ 11	-
OHD004184768	Cleveland Plant 2981 Independence Road Cleveland, OH 44115	2	-
OHD005041843	Toledo Plant P. O. Box 953 Toledo, OH 43601	59	-
<u>EPA Region VII</u>			
MOD071991434	Moberly Plant P. O. Box 715 Moberly, MO 65270	82	-
<u>EPA Region VIII</u>			
COD007060981	Louviers Works Louviers, CO 80131	14	-
Total		<u>\$3 939</u>	<u>-</u>

	<u>EPA Identification Number</u>	<u>Name and Address</u>
<u>EPA Region V (Cont'd)</u>		
	OHD004287322	Circleville Plant P. O. Box 89 Circleville, OH 43113
	OHD004184768	Cleveland Plant 2981 Independence Road Cleveland, OH 44115
	OHD005041843	Toledo Plant P. O. Box 953 Toledo, OH 43601
<u>EPA Region VII</u>		
	MOD071991434	Moberly Plant P. O. Box 715 Moberly, MO 65270
<u>EPA Region VIII</u>		
	COD007060981	Louviers Works Louviers, CO 80131

E. I. DU PONT DE NEMOURS & COMPANY

Facilities For Which Financial Assurance For Closure Or
Post-Closure Care Is Demonstrated Through The Financial
Test Specified In Subpart H Of 40 CFR Parts 264 And 265

<u>EPA Identification Number</u>	<u>Name and Address</u>	<u>Estimated Costs (dollars in thousands)</u>	
		<u>Closure</u>	<u>Post-Closure</u>
<u>EPA Region II</u>			
NYD000632125	Rochester Plant	\$ 11	-
NYD045604964	P. O. Box 1009 Rochester, NY 14603	13	-
<u>EPA Region III</u>			
WVD005012851	Belle Plant 901 W. Du Pont Ave. Belle, WV 25015	3 359	-
WVD045875291	Washington Works P. O. Box 1217 Parkersburg, WV 26101	103	-
WVD041952714	Potomac River Works P. O. Drawer 863 Martinsburg, WV 25401	27	-
<u>EPA Region V</u>			
MID005512066	Flint Plant 1060 E. Hamilton Ave. Flint, MI 48502	37	-
MID000809640	Montague Works P. O. Box A Montague, MI 49437	213	-
MIT099124349	Troy Laboratory 945 Stephenson Hwy. Troy, MI 48084	3	-
MND042649004	Biwabik Plant P. O. Box 170 Biwabik, MN 55708	5	-

E. I. DU PONT DE NEMOURS & COMPANY

Facilities Owned Or Operated By Subsidiaries For Which
Financial Assurance For Closure Or Post-Closure Care
Is Covered Through The Corporate Guarantee Specified
In Subpart H Of 40 CFR Parts 264 And 265

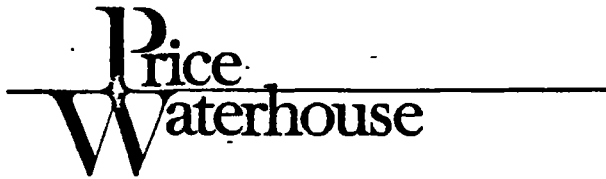
<u>EPA Identification Number</u>	<u>Name and Address</u>	<u>Estimated Costs (dollars in thousands)</u>	
		<u>Closure</u>	<u>Post-Closure</u>
<u>EPA Region II</u>			
NYD002240638	Remington Arms Co. 10 Hoefler Avenue Ilion, NY 13357	\$116	-
<u>EPA Region V</u>			
MND006161129	Conoco Inc. 10 North Broadway Box 8 Wrenshall, MN 55797	52	-
<u>EPA Region VIII</u>			
COD060627189	Conoco Inc.	218	-
COD000820415 (Asphalt Plant)	5801 Brighton Boulevard Commerce City, CO 80022	—	—
Total		<u>\$386</u>	<u>-</u>

E. I. DU PONT DE NEMOURS & COMPANY

Facilities For Which Financial Assurance For Closure Or
Post-Closure Care Is Demonstrated Through A State's
Financial Test Substantially Equivalent To That
Specified In Subpart H Of 40 CFR Parts 264 And 265

<u>EPA Identification Number</u>	<u>Name and Address</u>	<u>Estimated Costs (dollars in thousands)</u>	
		<u>Closure</u>	<u>Post-Closure</u>
<u>EPA Region III</u>			
MDD990686222	Conoco Chemical Co. 3441 Fairfield Road Baltimore, MD 21226	\$ 240	-
<u>EPA Region VI</u>			
OKD007233836	Conoco Inc. 1000 South Pine P. O. Box 1267 Ponca City, OK 74603	5 547	232
OKD071226344	Conoco Chemical Co. 5200 Southeast 59th Box 15360 Oklahoma City, OK 73155	3	-
TXD008081101	E. I. du Pont de Nemours & Co. Beaumont Works Port Arthur Road P. O. Box 3269 Beaumont, TX 77704	2 673	-
TXD063101794	E. I. du Pont de Nemours & Co. Corpus Christi Plant P. O. Box JJ Ingleside, TX 78362	301	-
TXD000789617	E. I. du Pont de Nemours & Co. Deer Park Plant 11603 Strang Road P. O. Box 2000 Deerpark, TX 77536	391	-

EPA Identification Number	Name and Address	Estimated Costs (dollars in thousands)	
		Closure	Post-Closure
EPA Region VI (Cont'd)			
TXD008079212	E. I. du Pont de Nemours & Co. La Porte Plant P. O. Box 347 La Porte, TX 77571	\$ 1 898	-
TXD000633529	E. I. du Pont de Nemours & Co. 3860 W. 11th St. P. O. Box 55369 Houston, TX 77055	27	-
TXD008079642	E. I. du Pont de Nemours & Co. Sabine River Works P. O. Box 1089 Orange, TX 77630	5 124	-
TXD008123317	E. I. du Pont de Nemours & Co. Victoria Plant P. O. Box 2626 Victoria, TX 77901	1 374	\$1 143
TXD980627137	Conoco Chemical Co. Chocolate Bayou Chemical Plant P. O. Box 2917 Alvin, TX 77511	22	-
Total		<u>\$17 600</u>	<u>\$1 375</u>



THIRTY SOUTH SEVENTEENTH STREET
PHILADELPHIA, PA 19103
215 665-9500

June 28, 1982

E. I. du Pont de Nemours and Company

At your request, we have performed the procedures enumerated below with respect to the accompanying schedule of selected financial data of E. I. du Pont de Nemours and Company (the "Company"). These procedures were performed solely to assist you in complying with the regulations of the Environmental Protection Agency under authority of the Resource Conservation and Recovery Act. The procedures we performed are summarized as follows:

1. We compared the amounts on the accompanying schedule for total liabilities, net worth, current assets, current liabilities, the sum of net income plus depreciation, depletion and amortization, and total assets in the U.S. with amounts in the Company's financial statements as at December 31, 1981.
2. We compared the amount on the accompanying schedule for tangible net worth to amounts in Company accounting records as at December 31, 1981.
3. We compared the response to Item 15 on the accompanying schedule with the data in the Company's financial statements as at December 31, 1981.

Because the above procedures were not sufficient to constitute an examination made in accordance with generally accepted auditing standards we do not express an opinion on any of the specific items referred to above. In connection with the procedures referred to above, no matters came to our attention that caused us to believe that the specified items should be adjusted. This report relates to the items specified above and does not extend to the financial statements of the Company, taken as a whole.

Price Waterhouse

I-9. Proof of Coverage by a State Financial Mechanism

The most recent revision of Ohio EPA Hazardous Waste Rules (proposed in April, 1982) do not allow the "self-insurance" alternative to satisfy the financial requirements. OEPA did not have an opportunity to adopt the federal April 7 and 16, 1982 changes when their proposals were made. However, since the April, 1982 proposal essentially modifies OPEA HW rules to equal federal EPA regulations, we presume future federal changes will be mirrored in OEPA rules. Therefore, we have not executed any other instrument of financial requirement satisfaction, but rather rely on meeting the federal regulations as being sufficient.

REVISED CLOSURE COST ESTIMATES

5-5-82

TOLEDO PLANT

All 1981 estimates escalated by 1.09 factor

Date 5/5/82

No. D- 1

Expiration Date 5/15/81

**COST OF CLOSURE ESTIMATE
DRUM STORAGE FACILITY
TOLEDO PLANT**

A. Name or number of storage pad HAZARDOUS WASTE DRUM STORAGE

B. Maximum gallons (permitted capacity) 66,000

C. Cost per drum to send to disposal (including freight) by waste type (use additional sheets if there is more than 3 waste streams):

1. Waste stream WASTE LIQUID PAINT (UCFF 13)

a. Max. No. of drums: 1200

b. Disposal now at: ROBERT ROSS & SON INC.

c. Current contract cost/drum (delivered) \$ 22.35

d. Total Cost (AEC) \$ 26,820

2. Waste stream _____ (UCFF _____)

a. Max. No. of drums: _____

b. Disposal now at: _____

c. Current contract cost/drum (delivered) \$ _____

d. Total Cost (AEC) \$ _____

3. Waste stream _____ (UCFF _____)

a. Max. No. of drums: _____

b. Disposal now at: _____

c. Current contract cost/drum (delivered) \$ _____

d. Total Cost (AEC) \$ _____

D. Decontamination Cost

The estimated cost for clean-up of storage pad (scrape, wash, flush, dry with absorbent, etc. -- or whatever is needed) of any spill, leak, drip, or residue of the stored hazardous waste: \$ 100.00

E. Total cost of closure (Cld, C2d, etc., plus D) \$ 26,920 ✓

ESCALATION (AT 10%) = $\$ 26,920 \times 1.07 = \underline{\underline{29,343}}$

Date 5/5/82

No. T 1

Supersedes Date 8/28/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

A. Name or number of storage tank(s) DIRTY WASH THINNER

B. Maximum gallons (permitted capacity) 550

C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF# 16)

2. No. of drums to drain (maximum) 10

3. Estimated No. of drums for decontamination material 4

4. Disposal now at: SYSTEMS TECHNOLOGY

BOX 266

PAULDING, OHIO

5. Current contract cost per drum (delivered): RS 19.80

6. Current cost of drum to be used: \$ 17.50 each

7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 522.20

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 580.00

2. Materials (to neutralize, flush, etc.) \$ 311.00

3. Drums (see C3, 5 & 6 above) -

4. Other (CERTIFICATION OF CLOSURE) \$ *300.00

E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 1713.20

*ONE TIME CHARGE TO CERTIFY CLOSURE

ESCALATION (AT 1.09) = $1713.20 \times 1.09 =$ 1,868.

Date 5/5/82

No. T 2

Supercedes Date 8/28/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

- A. Name or number of storage tank(s) DIRTY WASH THINNER
- B. Maximum gallons (permitted capacity) 2000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF# 16)
2. No. of drums to drain (maximum) 36
3. Estimated No. of drums for decontamination material 4
4. Disposal now at: SYSTEMS TECHNOLOGY
BOX 266
PAULDING, OHIO
5. Current contract cost per drum (delivered): RS 19.80
6. Current cost of drum to be used: \$ 17.50 each
7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 1492.00

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 1740.00
2. Materials (to neutralize, flush, etc.) \$ 1461.00
3. Drums (see C3, 5 & 6 above) -
4. Other (CERTIFICATION OF CLOSURE) \$ SEE #T-1
- E. Total cost of closure (C7 plus D 1,2,& 4) \$ 4693.00

ESCALATION (AT 1.09) = $\frac{4693}{1.09} \times 1.09 = \$$ 5,115.

Date 5/5/82

No. T 3

Supersedes Date 8/28/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

- A. Name or number of storage tank(s) DIRTY WASH THINNER
- B. Maximum gallons (permitted capacity) 1000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF# 16)
2. No. of drums to drain (maximum) 18
3. Estimated No. of drums for decontamination material 2
4. Disposal now at: SYSTEMS TECHNOLOGY
BOX 266
PAULDING, OHIO
5. Current contract cost per drum (delivered): RS 19.80
6. Current cost of drum to be used: \$ 17.50 each
7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 746.00

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 580.00
2. Materials (to neutralize, flush, etc.) \$ 311.00
3. Drums (see C3, 5 & 6 above) -
4. Other (CERTIFICATION OF CLOSURE) \$ SEE #T-1.
- E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 1637.00

ESCALATION (AT 1.09) = $1637 \times 1.09 = 1,784.$

Date 5/5/82

No. T 4

Supersedes Date 8/29/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

A. Name or number of storage tank(s) DIRTY WASH THINNER

B. Maximum gallons (permitted capacity) 1000

C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF# 16)

2. No. of drums to drain (maximum) 18

3. Estimated No. of drums for decontamination material 2

4. Disposal now at: SYSTEMS TECHNOLOGY

BOX 266

PAULDING, OHIO

5. Current contract cost per drum (delivered): \$ 19.80

6. Current cost of drum to be used: \$ 17.50 each

7. Total cost: $(2 + 3) \times (5 + 6) =$ \$ 746.00

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 580.00

2. Materials (to neutralize, flush, etc.) \$ 311.00

3. Drums (see C3, 5 & 6 above)

4. Other (CERTIFICATION OF CLOSURE) \$ SEE AT-1

E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 1637.00

ESCALATION (AT 1.09) = $1637.00 \times 1.09 =$ 1784.33

Date 5/5/82

No. T 5

Supersedes Date 8/28/81

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY

TOLEDO PLANT

- A. Name or number of storage tank(s) Proposed Dirty Wash
- B. Maximum gallons (permitted capacity) 25,000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):
1. Waste stream WASTE SOLVENT (WCF#)
 2. No. of drums to drain (maximum) 455
 3. Estimated No. of drums for decontamination material 4
 4. Disposal now at: Systems Technology
Box 266
Parkburg OH
 5. Current contract cost per drum (delivered): RS 19.80
 6. Current cost of drum to be used: \$ 17.50 each
 7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 17,121

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above):

1. Labor (plant or contract) \$ 700.00
2. Materials (to neutralize, flush, etc.) \$ 400.00
3. Drums (see C3, 5 & 6 above)
4. Other (Certification) \$ 50.00
- E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 18,271

ESCALATION (AT 1.09) = $18271 \times 1.09 = \underline{\underline{19,916.}}$

REVISED CLOSURE COST ESTIMATES

8-28-81

TOLEDO PLANT

D-1	No change
T-1	Separated estimates; added proposed new tank; 5-81 cost rates used now T-1 through T-5

Date 8/28/81

No. T 1

Supersedes Date 5/15/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

- A. Name or number of storage tank(s) DIRTY WASH THINNER
- B. Maximum gallons (permitted capacity) 550
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF# 16)
2. No. of drums to drain (maximum) 10
3. Estimated No. of drums for decontamination material 4
4. Disposal now at: SYSTEMS TECHNOLOGY
BOX 266
PAULDING, OHIO
5. Current contract cost per drum (delivered): RS 19.80
6. Current cost of drum to be used: \$ 17.50 each
7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 522.20

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 580.00
2. Materials (to neutralize, flush, etc.) \$ 311.00
3. Drums (see C3, 5 & 6 above) -
4. Other (CERTIFICATION OF CLOSURE) \$ *300.00
- E. Total cost of closure (C7 plus D 1,2, & 4) \$ 1713.20

*ONE TIME CHARGE TO CERTIFY CLOSURE

Date 8/28/81

No. T 2

Supercedes Date 5/15/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

- A. Name or number of storage tank(s) DIRTY WASH THINNER
- B. Maximum gallons (permitted capacity) 2000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF# 16)
2. No. of drums to drain (maximum) 36
3. Estimated No. of drums for decontamination material 4
4. Disposal now at: SYSTEMS TECHNOLOGY
BOX 266
PAULDING, OHIO
5. Current contract cost per drum (delivered): \$ 19.80
6. Current cost of drum to be used: \$ 17.50 each
7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 1492.00

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 1740.00
2. Materials (to neutralize, flush, etc.) \$ 1461.00
3. Drums (see C3, 5 & 6 above) -
4. Other (CERTIFICATION OF CLOSURE) \$ SEE #T-1
- E. Total cost of closure (C7 plus D 1,2,& 4) \$ 4693.00

Date 8/28/81

No. T 3

Supercedes Date 5/15/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

- A. Name or number of storage tank(s) DIRTY WASH THINNER
- B. Maximum gallons (permitted capacity) 1000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF# 16)
2. No. of drums to drain (maximum) 18
3. Estimated No. of drums for decontamination material 2
4. Disposal now at: SYSTEMS TECHNOLOGY
BOX 266
PAULDING, OHIO
5. Current contract cost per drum (delivered): RS 19.80
6. Current cost of drum to be used: \$ 17.50 each
7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 746.00

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 580.00
2. Materials (to neutralize, flush, etc.) \$ 311.00
3. Drums (see C3, 5 & 6 above) -
4. Other (CERTIFICATION OF CLOSURE) \$ SEE #T-1.
- E. Total cost of closure (C7 plus D 1,2,& 4) \$ 1637.00

Date 8/28/81

No. T 4

Supercedes Date 5/15/81

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

- A. Name or number of storage tank(s) DIRTY WASH THINNER
- B. Maximum gallons (permitted capacity) 1000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):
1. Waste stream WASTE SOLVENT (WCF# 16)
 2. No. of drums to drain (maximum) 18
 3. Estimated No. of drums for decontamination material 2
 4. Disposal now at: SYSTEMS TECHNOLOGY
BOX 266
PAULDING, OHIO
 5. Current contract cost per drum (delivered): RS 19.80
 6. Current cost of drum to be used: \$ 17.50 each
 7. Total cost: $(2 + 3) \times (5 + 6) =$ \$ 746.00

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above:

1. Labor (plant or contract) \$ 580.00
2. Materials (to neutralize, flush, etc.) \$ 311.00
3. Drums (see C3, 5 & 6 above) -
4. Other (CERTIFICATION OF CLOSURE) \$ SEE #T-1
- E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 1637.00

Date 8/28/81

No. T 5

Supersedes Date —

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT

- A. Name or number of storage tank(s) Prepared Dirty Wash
- B. Maximum gallons (permitted capacity) 25,000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):
1. Waste stream WASTE SOLVENT (WCF#)
 2. No. of drums to drain (maximum) 455
 3. Estimated No. of drums for decontamination material 4
 4. Disposal now at: Systems Technology
Box 266
Park Ridge OH
 5. Current contract cost per drum (delivered): RS 19.80
 6. Current cost of drum to be used: \$ 17.50 each
 7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 17,121

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above):

1. Labor (plant or contract) \$ 700.00
2. Materials (to neutralize, flush, etc.) \$ 400.00
3. Drums (see C3, 5 & 6 above)
4. Other (Certification) \$ 50.00
- E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 18,271

REVISED CLOSURE COST ESTIMATES

5-28-81

TOLEDO PLANT

D-1	No change
T-1	Corrected calculation error

Date 5/28/81

No. T-1

Supersedes Date 5/15/81 (corrects calculation error).

COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT

A. Name or number of storage tank(s) DIRTY WASH THINNER

B. Maximum gallons (permitted capacity) 2,000

C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):

1. Waste stream WASTE SOLVENT (WCF#)

2. No. of drums to drain (maximum) 36

3. Estimated No. of drums for decontamination material 20

4. Disposal now at: SYSTEMS TECHNOLOGY

Box 266
PAULDING, OHIO

5. Current contract cost per drum (delivered): RS 19.80

6. Current cost of drum to be used: \$ 17.50 each

7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 2088.80

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above):

1. Labor (plant or contract) \$ 1740.00

2. Materials (to neutralize, flush, etc.) \$ 1761.00

3. Drums (see C3, 5 & 6 above)

4. Other (Certification of closure) \$ 300.00

E. Total cost of closure (C7 plus D 1, 2, & 4) \$ \$5590.00

INITIAL CLOSURE COST ESTIMATES

5-15-81

TOLEDO PLANT

- D-1 Used 66,000 gallons (instead of 250,000 on Part A)
as more reasonable maximum (1200 drums).
- T-1 Lumped all tanks together - assumed only 2000
would be present as maximum.

No. D-1
R.A.M.

MAY 28 1981

A. Name or number of storage pad HAZARDOUS WASTE DRUM STORAGE

C. Cost per drum to send to disposal (including freight) by waste type (use additional sheets if there is more than 3 waste streams):

a. Max. No. of drums: 1200

b. Disposal now at: ROBERT ROSS & SON INC.

c. Current contract cost/drum (delivered) \$ 22.35

d. Total Cost (AEC) \$ 26,820

5. Max. No. of drums:

b. Disposal now at:

c. Current contract cost/drum (delivered) \$

d. Total Cost (ATC) \$

5. Max. No. of drugs:

b. Disposal now at:

c. Current contract cost/drug (delivered) \$

d. Total Cost (ANC) \$

The estimated cost for clean-up of storage pad (scrape, wash, flush, dry with absorbent, etc. -- or whatever is needed) of any spill, leak, drip, or residue of the stored hazardous waste: \$ 100.00

E. Total cost of closure (C1d, C2d, etc., plus D) \$ 26,920

Date 5/15/81

No. T -1

Supersedes Date _____

**COST OF CLOSURE ESTIMATE
TANK STORAGE FACILITY
TOLEDO PLANT**

R. A. M.
MAY 28 1981

- A. Name or number of storage tank(s) DIRTY WASH THINNER
- B. Maximum gallons (permitted capacity) 2,000
- C. Cost per gallon to send to disposal (including freight; use additional sheets if there is more than 1 tank unless all tank contents are the same):
1. Waste stream WASTE SOLVENT (UCPF N/A)
 2. No. of drums to drain (maximum) 36
 3. Estimated No. of drums for decontamination material 20
 4. Disposal now at: SYSTEMS TECHNOLOGY
BOX 266
PAULDING, OHIO
 5. Current contract cost per drum (delivered): \$ 19.80
 6. Current cost of drum to be used: \$ 17.50 each
 7. Total cost: $(2 + 3) \times (5 + 6) = \$$ 2032.80

D. Decontamination Cost

The estimated cost to thoroughly remove all traces (in addition to costs in C above):

1. Labor (plant or contract) \$ 1,740.00
2. Materials (to neutralize, flush, etc.) \$ 1,461.00
3. Drums (see C3, 5 & 6 above)
4. Other (CERTIFICATION OF CLOSURE) \$ 300.00
- E. Total cost of closure (C7 plus D 1, 2, & 4) \$ 3,591.80

X. - Specific Closure Activity

The specific steps necessary to close this facility are:

A. Drum Storage Pad Closure

1. Inspect all drums for readiness to ship:
 - a. Dot markings
 - b. Leaks
2. Correct any deficiencies found in 1.
3. Prepare manifest(s) and apply RCRA warning labels.
4. Ship all drums to a permitted Hazardous Waste Management (HWM) facility
5. Inspect pad for residues, drips, leaked material
6. Clean up any material found in 5.
7. Remove any markings referring to hazardous waste storage.
8. Have Professional Engineer review it.
9. File certifications of closure.

B. Storage Tank Closure (Ref: Section 265.197)

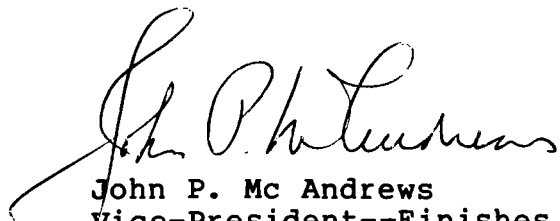
1. Remove all hazardous waste to drums or bulk carrier by normal pumping plus gravity draining.
2. Flush as may be required to remove residue.
3. Inspect tank, lines, pumps, etc., to insure cleanliness.
4. If sludges, dried residues, etc., are present, prepare tank for entry, dismantle lines, etc.; scrape and clean as necessary.
5. Ship all drainings, flushings and residues to a permitted hazardous waste management facility.
6. Remove all HW markings from the tank and lines.
7. Inspect with professional engineer.
8. File certificates of closure.

J. OTHER FEDERAL LAWS

This site is not impacted by any of the special environmental laws (Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act and Fish and Wildlife Coordination Act) in this Northern Ohio, urban setting.

K. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



John P. Mc Andrews
Vice-President--Finishes & Fabricated Products

Date: _____

8/13/82